PRESCHOOL-AGED CHILDREN'S BELIEFS AND RESPONSES TO HYPOTHETICAL AGGRESSIVE BEHAVIOURS

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Abstract

Previous research has demonstrated that aggressive preschool-aged children process social information differently (Helmsen & Petermann, 2010; Swit, McMaugh, & Warbuton, 2016). Research also shows that there is a high correlation between young children's use of physical and relational aggression (Card, Stucky, Sawalani, & Little, 2008) and that some children engage in a combination of both physical and relational aggression, often called co-morbid aggression. However, previous research is limited in including this group of children in their exploration of social-cognitive differences in aggressive and non-aggressive children. This study fills this gap by examining the normative beliefs and behavioural responses to hypothetical relational and physical aggression scenarios in a sample of physically aggressive, relationally aggressive, co-morbidly aggressive and typically developing preschool-aged children, aged 3 to 5. Children's normative beliefs and behavioural responses were assessed using a developmentally appropriate measure developed by Swit and colleagues (2016) which encouraged young children to use Duplo toy figurines to describe their perceptions of relational and physical aggression. The results of this study indicated that co-morbidly aggressive and relationally aggressive children perceived hypothetical physical aggression scenarios to be less acceptable compared to hypothetical relational aggression scenarios. In comparison, typically developing children and physically aggressive children perceived hypothetical physical aggression scenarios to be slightly more acceptable compared to hypothetical relational aggression scenarios. Moreover, relationally aggressive children were more likely to recommend prosocial problem-solving to respond to hypothetical peer conflict compared to the other three groups of children. In contrast, typically developing and physically aggressive children were more likely to recommend physically aggressive responses. Co-morbidly aggressive children recommended a combination of physical aggression and prosocial problem-solving behavioural responses.

These findings make an important contribution to aggression literature by demonstrating the differences in the way aggressive and non-aggressive preschool-aged children perceive and respond to hypothetical scenarios of physical and relational aggression.

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Chapter One: Introduction

During early childhood, engaging in rough and tumble play is typical and forms a framework to support prosocial assertive play (Reebye, 2005). What distinguishes play fighting from aggressive behaviour is the lack of intent to cause or threaten harm (Reebye, 2005). For this thesis, aggression is defined as the intention to cause harm towards another person who is motivated to avoid that harm (Anderson & Bushman 2002; Warburton & Anderson, 2015). Recent research indicates that preschool-aged (3-5 years) children engage in a range of aggressive and prosocial behaviours (Swit et al., 2016). As young children are more readily adaptable to new ways of thinking, early childhood is an important developmental period to ensure young children are learning and being taught prosocial behaviours over more negative aggressive behaviours. In this thesis, three forms of aggression will be investigated; physical aggression, relational aggression, and co-morbid aggression. Physical aggression is an act or threat of harm using physical force such as kicking or hitting, whereas relational aggression involves acts or threats of harm to cause damage towards one's social relationships (Blakely-McClure & Ostrov, 2018). Relational aggression can either be covert, for example, excluding peers from play or social groups (Crick, Ostrov, & Werner, 2006), or overt such as children blocking their ears to indicate to a peer they are ignoring them (Leff, Waasdorp, & Crick, 2010). Overt relational aggression is more common than covert relational aggression in early childhood (Leff et al., 2010). Lastly, co-morbid aggression is the use of a combination of physical and relational aggression.

Physical aggression is commonly used in infancy, and as children grow and develop they learn alternative ways of responding to conflict (Tremblay et al., 2004). For example, the use of physical aggression to solve conflicts during dyadic play begins to emerge towards

the end of an infant's first year (Tremblay et al., 1999) and then tends to decrease between the ages of 2 and 4 due to a growth in cognitive, social and verbal skills (Eisner & Malti, 2015). An underlying mechanism of physical aggression is often the inability to self-regulate (Reebye, 2005). The development of regulatory processes such as emotion regulation and physiological regulation (self-soothing or help-seeking) often begin in the prenatal period to help soothe the child when they are upset (Reebye, 2005). During the preschool years, these processes are aided by an increase in cognitive capacities which allows the child to more effectively control impulses and therefore leading to a decrease in physical aggression (Reebye, 2005). Furthermore, as social and verbal skills develop, children start using words to communicate their feelings and begin to learn more appropriate ways of interacting with their peers (Tremblay, 2000). However, with an increase in cognitive capacity, physical aggression can also be replaced with relational forms of aggression which increases substantially between the ages of 4 and 7 (Côté, Vaillancourt, LeBlanc, Nagin, & Tremblay, 2006; Tremblay et al., 1999; Vaillancourt, Miller, Fagbemi, Côté, & Tremblay, 2007). During early childhood, children are starting to establish social hierarchies and relationships that may be supported by the use of relational aggression compared to physical aggression (Gower, Lingras, Mathieson, Kawabata, & Crick, 2014).

In addition to the trajectory of aggressive behaviours, gender differences in aggression have also been found. Perhaps one of the most pronounced and consistent pieces of evidence in the literature on child development, is that there are higher levels of physical aggression in boys compared to girls across all developmental periods (Archer, 2004; Card et al., 2008; Coyne, Nelson, & Underwood, 2011; Hyde, 1984; Loeber, Capaldi, & Costello, 2013). Relational aggression was introduced as a way of understanding a more subtle form of aggression that was assumed to be more common among girls (Lansford et al., 2012). However, unlike the findings in physical aggression, findings of gender differences in

relational aggression are unclear and inconsistent. For example, some studies show that girls are significantly more relationally aggressive than boys (Crick, Casas, & Mosher, 1997; Ostrov and Crick, 2007; Poland, Monk, & Tsermentseli, 2016) while other studies have found no significant gender differences in the use of relational aggression (Card et al., 2008; Swit & McMaugh, 2012; Swit et al., 2016). Gender differences in co-morbid aggression have also been explored in young children. It was found that boys are more likely to consistently use high levels of both physical and relational aggression, whereas girls are more likely to specialise in one type of aggression only (Ettekal & Ladd, 2015; Crick et al., 1997).

Previous research has primarily focused on physical aggression and the cognitive mechanisms underlying it, however, there has been limited research conducted on preschool-aged children who use relationally aggressive behaviours and even more limited research on children who use both relational and physical aggression, which is often categorised as 'co-morbid' aggression (Crick, Ostrov, & Werner, 2006). This is concerning because during early childhood there is a high correlation between relational and physical aggression (Card et al., 2008) suggesting that there may be a high proportion of young children who could be identified as engaging in comorbid aggression. Furthermore, research demonstrates that engaging in aggressive behaviours can lead to a range of negative social-psychological outcomes (Gower et al., 2014; Prinstein, Boergers, & Vernberg, 2001) which is even further exacerbated in children who engage in co-morbid aggression (Crick, Ostrov, & Werner, 2006; Ettekal & Ladd, 2015; Prinstein et al., 2001).

Engaging in social relationships in early childhood is critical for young children to learn about social expectations and acceptable and unacceptable behaviours (Tremblay, 2000). A key type of social cognition that is highly related to children's use of aggressive behaviours is the degree to which aggression is seen as acceptable (Huesmann & Guerra,

1997). In this study, we refer to children's acceptability about the use of aggression as normative beliefs. Normative beliefs of aggression have been defined in the literature as one's personal beliefs about the degree to which a behaviour is acceptable, and influence the regulation of a person's actions by setting internal standards for acceptable and unacceptable behaviours (Ang, Li, & Seah, 2017). Previous literature has shown that children's beliefs about the use of aggression may influence the way they process social information, in turn guiding their social behaviours (Huesmann & Guerra, 1997). For example, behaviours which children believe are more acceptable are more likely to be used to respond to social situations (Bellmore, Witkow, Graham, & Juvonen, 2005). Social Cognitive Theory (Bandura, 1989, 2001) posits that from a young age, children's social experiences influence their internal cognitive processes about what normative behaviour looks like, including aggressive behaviours. These experiences influence a child's normative beliefs about social behaviours and can direct their behavioural responses in social interactions (Further description of the Social Cognitive Theory is included on page 19 in chapter 2). Furthermore, according to the Social Information Processing Model (Crick & Dodge, 1994), when children engage in social interactions, they process the information in a series of steps that help them to formulate an appropriate response to social cues which is influenced by their beliefs about the acceptability of aggression (Crick, Grotpeter, & Bigbee, 2002) (A diagram and a more detailed description of the social information processing model is included on page 20 in chapter 2). The selection of a behavioural response comes directly before the enactment of the behaviour, and therefore should be a strong indicator of the child's likelihood to aggress or not (Bellmore et al., 2005). For example, research using older child populations has shown that children who engage in physical and relational aggression often hold schemas and biases that are supportive of aggressive behaviours (Burks, Laird, Dodge, Pettit, & Bates, 1999; Huesmann & Guerra, 1997). These biases then influence the way they process social information and

increase the likelihood of responding to social situations with aggression (Crick & Dodge, 1994).

During early childhood, children's beliefs about aggression may not yet be entrenched and therefore, researchers, educators and practitioners should acknowledge the malleability of young children's normative beliefs about aggression, especially in contexts where children may be vulnerable to developing beliefs that are accepting of aggression (Swit et al., 2016). Furthermore, as children get older their mode of using aggression becomes more covert and complex, reputations become more salient, and their social information processing becomes more ingrained, making it harder to identify the use of relationally aggressive behaviours and change the way children process social cues (Leff et al., 2010). Therefore, it is important to examine the differences in young children's social-cognitive processes and behavioural responses to provocation, to see if there is an association between their normative beliefs, behavioural responses and their use of aggression. Children who do not learn appropriate, prosocial ways to solve social conflict are at a higher risk of serious aggressive behaviour which can persist into adolescence and adulthood, potentially having detrimental effects on their concurrent and future social maladjustment and internalizing problems (Leff et al., 2010).

1.1 The Problem

Currently, little is known about the underlying cognitive processes that may explain why some preschool-aged children engage in physical and relational aggression, their social-cognitive understanding of aggression, or their reasons for engaging in aggressive behaviours. Research examining the social-cognitive differences in young children has been limited, and those researchers who have examined the social cognition of young children have done so with physically or relationally aggressive children, but not in children who use

both relational and physical aggression, which is often categorised as 'co-morbid' aggression (Crick, Ostrov, & Werner, 2006).

Children who engage in aggressive behaviours are thought to have a deficit or bias in one or more of the six steps described in the Social Information Processing Model (Crick & Dodge, 1994) and these differences in social information processing are used to explain why some children choose aggressive responses to provocation and others access prosocial behavioural strategies (Crick & Dodge, 1994). For example, physically aggressive children have been found to have deficits at one or more steps of their social information processing, and are more likely to interpret ambiguous social cues as aggressive (Crick et al., 2002). However, more recent research has provided evidence which suggests that relationally aggressive children may have greater social cognitions and may use this to their advantage with peers (Nelson, Robinson, & Hart, 2005). This was also reflected in Swit and colleagues (2016) study, who found that relationally aggressive children were more likely to suggest prosocial responses, whereas, non-aggressive children were more likely to suggest aggressive responses (Swit et al., 2016). These results suggest a difference in the social information processing of physically, relationally and non-aggressive children, however, little is known about co-morbidly aggressive children's social cognitions. It is critical that we include comorbidly aggressive children into studies on aggression in early childhood to examine whether they also process social information differently. We can then use this information to better inform practitioners, teachers and parents, as well as interventions. Early work on co-morbid aggression was conducted by Crick, Ostrov and Werner (2006), however, co-morbidity of physical and relational aggression was only investigated concerning social-psychological outcomes.

Furthermore, past research has predominantly used parent or teacher reports to collect information on children's engagement in aggressive behaviours. This is due to the limitations relating to young children's ability to understand instructions and express their thoughts as well as their inability to be good informants of their behaviours and the behaviours of others (Bonica, Arnold, Fisher, Zelijo & Yershova, 2003; Crick et al., 1997; Swit & McMaugh, 2012). Recently, a developmentally appropriate measure was developed to assess relationally aggressive and prosocial children's social-cognitive understanding (Swit et al., 2016). However, research has been limited in using developmentally appropriate methodologies to assess young children's social-cognitive beliefs about relational aggression. Further research is needed to explore whether this measure can be generalised to other populations such as young children who use both relational and physical aggression (co-morbid aggression) which is another limitation this study aims to address.

1.2 Purpose and Goals

The current study aims to address these limitations by examining differences in the normative beliefs (whether a behaviour is acceptable or unacceptable) and behavioural responses in preschool-aged children who have been identified by their parents as either relationally, physically, or co-morbidly aggressive. Aggressive children's beliefs and responses were compared to a group of typically developing children that were rated by their parents as engaging in normative levels of aggression and prosocial behaviour for this sample of children.

The goals of the study are to:

1. Examine whether there are differences between and/or within physically aggressive, relationally aggressive, co-morbidly aggressive and typically developing children's normative beliefs about relational and physical aggression.
2. Explore physically aggressive, relationally aggressive, co-morbidly aggressive, and typically developing children's behavioural responses to hypothetical physical and relational aggression-provoking scenarios.
3. Investigate whether children's normative beliefs guide their behavioural responses to hypothetical physical and relational aggression-provoking scenarios.
4. Explore age and gender differences between and within aggression categories.

1.3 Research Questions and Hypotheses

1.3.1 Research question 1.

Are there any differences in children's normative beliefs about hypothetical scenarios depicting relational and physical aggression? And can differences be identified between and/or within physically aggressive children, relationally aggressive children, co-morbidly aggressive children and typically developing children?

1.3.1.1 Hypothesis.

Social Cognitive Theory (Bandura, 1989, 2001) suggests that children's social behaviours are directed by their normative beliefs and the results of Huesman and Guerra's study (1997) reflect that. Based on Social Cognitive Theory (Bandura 1989, 2001) and Huesman and Guerra's study (1997), we expect that physically aggressive children will indicate that hypothetical physical aggression scenarios are more acceptable compared to hypothetical scenarios describing relational aggression. We might also expect relationally aggressive children to perceive the relational hypothetical scenarios as more acceptable than

the physical aggression hypothetical scenarios. Furthermore, we might expect co-morbidly aggressive children to describe both physical and relational aggression hypothetical scenarios as acceptable, while typically developing children might describe both physical and relational aggression hypothetical scenarios as unacceptable. However, Huesmann and Guerra's study (1997) was conducted using older childhood populations and did not include co-morbidly aggressive children in their study. More recent research conducted by Swit and colleagues (2016) who examined relationally aggressive and typically developing children's normative beliefs in a sample of preschool-aged children had conflicting results for the relationally aggressive children. Their results showed that relationally aggressive children perceived the hypothetical scenarios describing relational and physical aggression as unacceptable (Swit et al., 2016). Therefore, we may also expect that relationally aggressive children will perceive the hypothetical scenarios describing relational and physical aggression as unacceptable (Swit et al., 2016). However, due to the conflicting findings across developmental periods, it is suggested that these hypotheses are explored with caution and that they will remain exploratory until additional data is obtained on preschool-aged children.

1.3.2 Research question 2.

What are physical, relational, co-morbidly aggressive and typically developing children's behavioural responses to relationally and physically aggressive hypothetical provocation scenarios, and are there any differences within and between children?

1.3.2.1 Hypothesis.

It is expected that physically aggressive children will suggest more physical aggression to resolve conflict due to externalising behaviours being a common occurrence in physically aggressive children (Prinstein et al., 2001). Based on the premises posited by the Social Information Processing Model (Crick & Dodge, 1994) and Social Cognitive Theory

(Bandura, 1989, 2001) that beliefs direct behaviour, we might expect relationally aggressive children to suggest more relational aggression behavioural responses. Furthermore, co-morbidly aggressive children may be more likely to recommend both physical and relational aggression behavioural responses, while typically developing children might be more likely to recommend prosocial problem-solving behaviours to resolve conflict. However, as stated previously, more recent research with an early childhood population has shown divergent findings. For example, Swit and colleague's (2016) study indicated that relationally aggressive children are more likely to describe more complex forms of conflict resolution and prosocial problem-solving compared to non-aggressive children. And so, we may also expect the relationally aggressive children to suggest more prosocial problem-solving or complex behavioural responses. Moreover, due to the lack of data on co-morbidly aggressive children, our hypotheses related to this subgroup are exploratory. Lastly, Swit and colleagues (2016) found that non-aggressive children were more likely to recommend aggressive behavioural responses. And so, we may also expect the typically developing children to recommend more aggressive responses. Therefore, due to the discrepancy in findings and the paucity of research in early childhood populations, these hypotheses will remain exploratory.

1.3.3 Research question 3.

Are children's behavioural responses used to respond to hypothetical scenarios of relational and physical aggression related to their normative beliefs?

1.3.3.1 Hypothesis.

It is hypothesised that children's normative beliefs about the acceptability of relational and physical aggression will influence the behavioural responses they describe in response to each of the hypothetical scenarios. More specifically, it is expected that children who believe physical aggression is acceptable will be more likely to suggest physical

aggression in response to each of the hypothetical scenarios. Furthermore, children who believe relational aggression is acceptable will be more likely to suggest relational aggression in response to each of the hypothetical scenarios. Furthermore, children who believe both physical aggression and relational aggression to be acceptable behaviours will be more likely to suggest a combination of relational and physical aggression in response to each of the hypothetical scenarios. Lastly, children who believe both physical aggression and relational aggression to be unacceptable behaviours will be less likely to use either type of aggression in response to the hypothetical scenario.

1.3.4 Research question 4.

Are children's normative beliefs and behavioural responses about physical and relational aggression influenced by the child's gender or age?

1.3.4.1 Hypothesis.

It is hypothesised that boys will be more likely to be rated as physically aggressive and girls more likely to be rated as relationally aggressive by their parents (Swit, 2019). Furthermore, it is predicted that boys will be more likely to believe that physically aggressive behaviours are acceptable and to suggest physically aggressive responses to hypothetical aggression scenarios than girls. Extensive literature demonstrates that gender differences are substantial for physical aggression with results which show boys engage in higher levels of physical aggression compared to girls (Archer, 2004; Card et al., 2008; Coyne et al., 2011; Hyde, 1984; Lansford et al., 2012; Loeber et al., 2013). However, gender differences in relational aggression are much less pronounced with research identifying that both boys and girls use relational aggression (Card et al., 2008; Swit & McMaugh, 2012; Swit et al., 2016). Therefore, we do not expect to find any gender differences in the use of relational aggression. Moreover, it is predicted that younger children will be more likely to perceive aggressive

behaviours as acceptable and to suggest aggressive behaviours in response to the hypothetical physical and relational aggression scenarios compared to older children. This is based on the premise that physical aggression is more prevalent in younger children and decreases between the ages of 2 and 4 (Eisner & Malti, 2015).

1.4 Organisation of this Thesis

Following this chapter, Chapter 2 will introduce and define relevant concepts related to aggression in the early years. A description of relevant theoretical frameworks and models that may explain the differences in the way children process social information and respond to social cues will be provided. This will be followed by a review of the literature on physical, relational and co-morbid aggression in preschool-aged children and factors that may influence young children's preparedness to aggress. Chapter 2 will conclude with a review of the outcomes associated with physical, relational and co-morbid aggression in early childhood. The methodological approach, participants, measures, data analysis and procedure used in this study will be described in Chapter 3. In Chapter 4 the results are discussed. Finally, Chapter 5 will present the reader with a discussion on how the findings relate to previous literature and the study hypotheses, as well as explanations for the findings. Chapter 5 will also discuss the implications of these findings, including how they contribute to the field of aggression in young children and how they can be used to inform future research, interventions and potential changes in practices. Lastly, the strengths and limitations of the study and suggestions for future research are discussed.

Chapter Two: Literature Review

This chapter will start by defining aggression and reviewing the literature on the forms and functions of young children's aggressive behaviours. Second, a review of relevant social-cognitive theories will be described to help provide a framework from which to understand why some young children choose to use aggressive behaviours. Third, person factors, including normative beliefs, social information processing and age and gender, will be reviewed as these are relevant to this study and have been shown to influence preschool children's social and aggressive behaviours. Lastly, outcomes of aggression in young children will be described including peer relationships, peer victimisation, and internalising and externalising symptomology.

2.1 Defining Aggression and its Forms and Functions

In this thesis, human aggression will be defined as "any behaviour directed toward another individual that is carried out with proximate intent to cause harm… the perpetrator must believe that the behaviour will harm the target and that the target is motivated to avoid the behaviour" (Anderson & Bushman, 2002, pg. 28). This working definition of aggression covers three components which are considered crucial to the distinction of young children's aggressive behaviour. This includes: 1) aggression is an observable behaviour, 2) the aggressive act is carried out with the intent to cause harm, and 3) the victim is motivated to avoid that harm.

Forms of aggressive behaviour used by preschool-aged children can include overt behaviours and covert behaviours. Overt aggression is easily observable as it is direct and involves confronting the victim face to face (Archer & Coyne, 2005) and is most commonly used to describe physical aggression or verbal aggression. Overt aggression is considered

more common during early childhood (Yektatalab, Alipour, Edraki & Tavakoli, 2015) because most children's social interactions are direct and occur in open spaces. Aggression in young children can also include covert behaviours including relational aggression (which may also be referred to as social, indirect, or covert aggression in other literature) (Archer & Coyne, 2005). Covert aggression is less detectable as it involves discrete, indirect behaviours which may make it difficult to establish who the perpetrator is (Warburton & Anderson, 2015).

Historically, the most commonly studied form of aggression in preschool-aged children is physical forms of aggression (Tremblay, 2000) because it is easily observed and is considered to be fairly typical during early childhood (Björkqvist, Lagerspetz, & Kaukiainen, 1992; Tremblay, 1999). Physical aggression can be defined as the intentional use of physical force, such as kicking, hitting, or biting to physically harm another person (Swit et al., 2016). However, more recently there has been an increase in attention amongst researchers towards relational aggression. Empirical data suggests that relatively simple forms of relational aggression can be seen in children as young as 3-years-old and may become more complex and continue to increase with age (Leff et al., 2010). Relational aggression is defined as the intentional harming or manipulation of social relationships to inflict harm on a person (Swit et al., 2016). The way relational aggression is expressed changes depending on the developmental period of the child. In early childhood, relational aggression tends to be more overt and direct whereas, in older children, it tends to be more covert and hidden (Crick, Ostrov, Appleyard, Jansen, & Casas, 2004; Ostrov, Kamper, Hart, Godleski, & Blakely-McClure, 2014). An example of an overt act of relational aggression may include young children blocking their ears to indicate they are ignoring a peer (Leff et al., 2010). Examples of covert relational aggression include acts such as excluding peers from play or social groups, alienating a peer from social situations, and causing others to reject a peer by

spreading rumours about them (Crick, Ostrov, & Werner, 2006). Research also shows that there is a high correlation between young children's use of physical and relational aggression (Card et al., 2008) and therefore there may be a relatively high number of children engaging in both physical and relationally aggressive behaviours co-morbidly. Perpetrators and victims of relational and physical forms of aggression are more likely to experience current and future maladjustment (Casper & Card, 2017; Coelho, Torres, Fernandes, & Santos, 2017; Marshall, Arnold, Rolon-Arroyo, & Griffith, 2015) and children who engage in both physical and relational aggression are at an increased risk for maladaptive outcomes (Crick, Ostrov & Werner, 2006; Gower et al., 2014). Thus, it is essential to investigate the developmental processes associated with physical and relational aggression as well as co-morbid aggression, to better understand why young children may engage in these aggressive behaviours. This information can be used to inform current and future intervention practices.

The function of aggression provides some explanation for why some children may engage in aggression. Researchers in the field of psychology have identified two main functions of aggression. First, proactive aggression is unprovoked and is used for instrumental purposes to obtain self-serving goals or resources (Eisner & Malti, 2015). Examples of proactive aggression include revenge-based punishments or threats, using coercion to manipulate people's behaviours or co-opting goods that belong to others (Eisner & Malti, 2015). Second, reactive aggression is defined as aggressive behaviour that is displayed in response to a perceived threat or provocation (Dodge & Coie, 1987). Reactive aggression is characterised by reflexive and impulsive aggressive behaviour (Fite, Stoppelbein, & Greening, 2009) and is motivated by an internal hostile or agitated state (Ostrov, Murray-Close, Godleski, & Hart, 2013). Reactive aggression is commonly accompanied by emotions of anger and fear (Eisner & Malti, 2015). Examples of reactive aggression include retaliating to a perceived threat with a hostile act. Researchers have noted

that there is an overlap between proactive and reactive functions in explaining the motives of young children's aggressive behaviour. For example, a meta-analysis by Card and Little (2006) examining 36 studies which investigated proactive and reactive aggression during childhood and adolescence found a strong correlation (r = .68) between proactive and reactive aggression. This could mean that the function of children's aggression can be both reactive and proactive or that the two constructs are difficult to dissociate when reporting them (Poulin & Boivin, 2000). Despite the high correlation identified by Card and Little (2006), reactive and proactive functions also have specific characteristics which are different from each other (Ostrov et al., 2013). For example, reactive and proactive functions are differentiated by affective and social processes such as anger, emotion regulation, and peer rejection (Ostrov et al., 2013). Reactive aggression is associated with higher levels of impulsivity and anger as well as peer rejection, while proactive aggression tends to be associated with more positive developmental outcomes including decreases in peer rejection and anger, and an increase in emotion regulation, leadership qualities and social dominance (Ostrov et al., 2013). Moreover, proactive aggression can also be used for maladaptive purposes. For example, research has shown that proactive aggression is correlated with social-psychological maladjustment such as student-teacher conflict in childhood (Ostrov & Crick, 2007) and substance use and delinquency in adolescence (Fite, Colder, Lochman, & Wells, 2008). According to an observational study by Ostrov and Crick (2007) examining proactive and reactive relational and physical aggression in preschool-aged children, aggressive behaviour motivated by proactive intent is more common than reactive aggression in young children due to the importance of preferred resources and objects that are in the child's immediate environment during play (Ostrov & Crick, 2007). For example, if a child's goal is to obtain a particular toy to play with but another child is already playing with it, the child is more likely to use proactive aggression to achieve their goal of obtaining the toy.

Therefore, the child is engaging in an intentional act of aggression to achieve a self-serving goal. Although this function of aggression is commonly seen in early childhood, reactive aggression is also common in young children (Dodge, Lochman, Harnish, Bates & Pettit, 1997).

It is proposed that reactive and physical aggression have similar underlying factors including anger and impaired behavioural control while proactive and relational aggression seem to be characterised by greater social-cognitive ability (Heilbron & Prinstein, 2008; Ostrov et al., 2013; Scarpa, Haden, & Tanaka, 2010). Correlations between forms and functions of aggression were investigated in Evans, Frazer, Blossom and Fite's (2018) study which examined functions and forms of aggression in early childhood. Participants included 17 teachers and 133 preschool children. A teacher-report form was used to rate the children in their classrooms on forms of aggression, relational and physical aggression, as well as functions of aggression, reactive and proactive aggression. Correlational analysis between forms and functions of aggression showed that physical aggression was more strongly correlated with both reactive and proactive aggression than relational aggression. The researchers suggested that acts of physical and relational aggression may both be used to serve a proactive function, however, reactive aggression is usually more physical than relational (Evans et al., 2018). The correlation analysis also showed the relational aggression was more strongly correlated with proactive aggression than reactive aggression (Evans et al., 2018). Reactive aggression is more closely linked to physical aggression due to the inability to self-regulate in young children which increases the likelihood of retaliation in social settings (Girard, Tremblay, Nagin, & Coté, 2018). For example, deficits in impulsivity, emotional regulation and self-control are contributors to increased reactive aggression (Denson, DeWall, & Finkel, 2012; Marsee & Frick 2007). Therefore, as children's brain maturation occurs and self-regulation is developed, reactive aggression is likely to decrease

(Tremblay, 2000). Girard and colleagues (2018) examined the trajectories of physical and relational aggression combined with the trajectories of proactive and reactive aggression. They discovered that while physical aggression and reactive aggression were linearly decreasing, indirect (relational) aggression increased between the ages of 7 and 10. Proactive aggression follows a similar trajectory to relational aggression due to increases in social-cognitive abilities such as self-regulatory skills and language development (Tremblay, 2000; Evans et al., 2018).

Children's aggression can serve multiple functions depending on what they are trying to achieve as evidenced by the high correlation between forms of aggression (Card et al., 2008) and functions of aggression (Card & Little, 2006). Therefore, co-morbid aggression in children may signal the fact that children can use a combination of forms of aggression and the functions of their behaviour can also change depending on their motives. This reinforces why it is important to explore young children's normative beliefs and social cognitions to be able to more clearly understand the nuances and multifaceted constructs that are at play when children engage in aggression.

2.2 Theories of Aggression

Approaches to the study of aggression that are non-biological, usually address social-cognitive and social information processing models to understand human aggression (Anderson & Bushmann, 2002; Bandura, 1989, 2001; Crick & Dodge, 1994). These models assume that there is a neural substrate in which aggressive cognitions, such as thoughts and feelings, and action tendencies are wired together in a neural network (Crick & Dodge, 1994; Huesmann, 1998). For this thesis, Social Cognitive Theory (Bandura, 1989, 2001) and Social Information Processing Theory (Crick & Dodge, 1994) and the General Aggression Model (GAM) (Anderson & Bushman, 2002) will be briefly reviewed as a way to highlight the key

processes that may influence young children's use of aggression. The major underlying construct that links these theories together is social cognition. Social cognition can be described as a child's ability to understand the feelings, thoughts, intentions, and beliefs of themselves and others (Hughes & Leece, 2010). While Social Cognitive Theory (Bandura, 1989, 2001) and Social Information Processing Theory (Crick & Dodge, 1994) differ in perspective and focus, the General Aggression Model (Anderson & Bushman, 2002) is an integrative framework which incorporates both of these theories to provide a general explanation of human aggression.

2.2.1 Social Cognitive Theory.

Social Cognitive Theory (Bandura, 1989, 2001), proposes that, from an early age, internal cognitive processes about what normative social behaviour looks like, including the use of aggressive behaviours, are influenced by children's social experiences in different ecological settings such as the home and school environment. An important concept of social cognition is the development of beliefs about the degree of acceptability of different types of aggressive behaviours (Huesmann & Guerra, 1997). Young children's normative beliefs about aggression can be an indicator of their aggression (Goldstein et al., 2002; Swit et al., 2016,). More specifically, children that approve of aggression seem to prefer, and more promptly access aggressive means to deal with and resolve conflicts and are more likely to use aggressive behaviours in social interactions compared to children that believe it is unacceptable to engage in aggression (Crick & Dodge, 1994; Huesmann & Guerra, 1997; Werner & Nixon, 2005). Research on relational aggression in children and adolescents has found similar findings that normative beliefs about aggression tend to be predictive of children's use of aggressive behaviours (Werner & Nixon, 2005, Werner & Hill, 2010). However, these findings have only included older children and adolescent-aged participants

and there is still limited research conducted on this association using early childhood populations.

To date, interventions developed to address aggression in preschool-aged children have usually focused on extinguishing anti-social behaviours and replacing them by teaching positive ways of coping and responding to conflict (See Leff et al., 2010 for a review). For example, child-directed Cognitive Behavioural Therapy (CBT) is a common intervention technique used to help correct aggressive behaviours or conduct problems in children by focusing on emotion regulation, learning appropriate social problem-solving skills, and developing alternative social behaviours that can replace aggressive reactions (Sukhodolsky, Smith, McCauley, Ibrahim, Piasecka, 2016). However, recent research has suggested that there may be some value in examining young children's beliefs about aggression as a way to change behaviour because during the early years normative beliefs may be less entrenched and easier to change than behaviour (Swit et al., 2016).

2.2.2 Social Information Processing Theory.

Numerous studies have utilised social information processing models of social behaviours in children to describe and understand the development and persistence of aggression in young children (Crick et al., 2002). The Social Information Processing Theory (SIP) (Crick & Dodge, 1994) posits that children's beliefs have an influence on the interpretation of social interactions which has a direct effect on the behavioural response they use when faced with social conflict (Crick et al., 2002). Accordingly, when children engage in social interactions, they internalise a series of steps that help them to formulate an appropriate response to social cues which is influenced by their beliefs about the acceptability of aggression (Crick et al., 2002). The Social Information Processing Theory (Crick &

Dodge, 1994) proposes six steps by which children process and interpret social information. Each step builds on the next and influences the other steps creating a cycle for processing social information. The six steps are as follows:

1) The first step of the social information processing model is the recognition of social cues. On a daily basis, children are exposed to numerous internal and external cues and children are required to selectively attend to and encode those cues. Cues that are more salient to the child are more likely to be attended to compared to cues that are irrelevant to the child. The salience of cues may be based on personal, contextual, or situational factors (Guerra & Huesmann, 2004). For example, previous experiences of aggression may contribute to children's future recognition of aggressive cues (Guerra & Huesmann, 2004).
2) The second step involves the interpretation of social cues which have been encoded. Interpretation of cues involves an evaluation of what has caused the cues as well as the intent and reason behind why other people are behaving the way they are. Children's interpretations are significantly influenced by their knowledge structures, scripts and schemas acquired from previous experiences and individual capabilities.
3) In the third step, children clarify what goal they want to achieve from the social situation.
4) In the fourth step, children start to develop potential responses to the situation. Children will either access responses based off of previous experiences, or in the case of a novel situation, the construction of a new response.
5) The fifth step involves an evaluation of the possible responses based on the child's confidence in their ability to engage in aggression, their belief that the response will result in the expected outcome, and lastly the desirability of the outcome

achieved through using the particular response. The response which aligns with this evaluation most closely will be chosen for enactment.

6) The last step of the Social Information Processing Model involves the child enacting their chosen behavioural response.

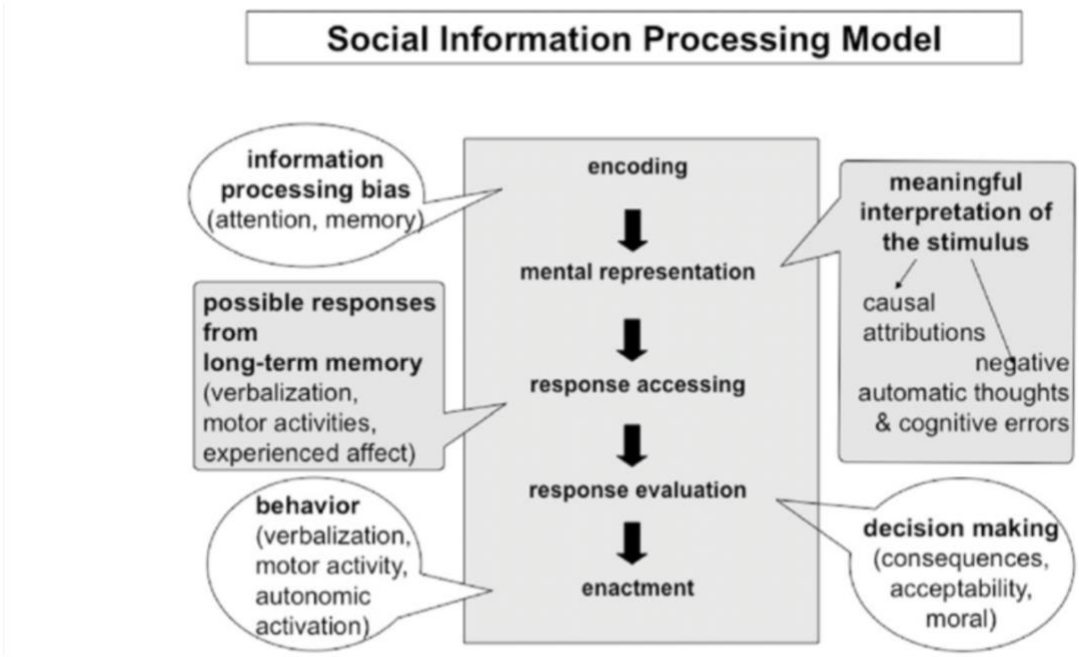

Figure 1. Social Information Processing Model

Crick and Dodge (1994) proposed that the Social Information Processing Model provides a description for conscious and well-thought-out behaviours and helps to explain why some children behave differently in response to the same social scenario. However, while this model provides a way of understanding reflective and rational social-cognitive processes, it has come under some scrutiny for its inability to explain automatic or unconscious behavioural enactments (de Castro, 2004; Lemerise & Arsenio, 2000).

2.2.3 The General Aggression Model.

The General Aggression Model (GAM) (Anderson & Bushman, 2002) is an integrative, comprehensive framework, widely used for explaining and understanding aggressive behaviours (Allen, Anderson, & Bushman, 2018). It is the leading social-cognitive model as it is the only one that incorporates social, biological, cognitive and decision processes, personality development, and short-term and long-term processes to understand aggression in humans (DeWall, Anderson, & Bushman, 2011).

The development of the GAM occurred through the integration of elements from existing domain-specific theories including, Cognitive Neoassociation Theory (Berkowitz, 1989, 1990, 1993), Bandura's Social Cognitive Theory (1989, 2001), Script Theory (Huesmann, 1986, 1998), Social Interaction Theory (Tedeschi & Felson, 1994), and Excitation Transfer Theory (Zillmann, 1983). Underpinning these theories is the assumption that through social learning and experiences, children acquire an associative neural network full of knowledge structures, scripts and schemas that guide behaviours. The GAM proposes that aggressive behaviour is largely influenced by knowledge structures which can include attitudes and beliefs (i.e. a person's normative beliefs about aggression), behavioural scripts (i.e. the automatic response of using aggression to resolve conflicts), expectation schema (i.e. the expectation of others to act aggressively), and perceptual schemata (i.e. interpreting ambiguous interactions as hostile) (Allen et al., 2018). The General Aggression Model can be explained by discussing two major concepts: Proximate and distal processes.

Proximal Processes.

The proximal processes help with our understanding of people's characteristics and individual factors to explain their use of aggression and the way this interacts with social contexts and cues (Allen et al., 2018). There are three critical stages of the proximate processes including (1) person and situation inputs, (2) present internal states, and (3) outcomes of appraisal and processes of decision making (DeWall et al., 2011) (see Figure 2) that explain individual episodes of aggression (Allen et al., 2018). Each stage influences and builds upon each other which in turn influences whether an outcome is aggressive or non-aggressive (Allen et al., 2018).

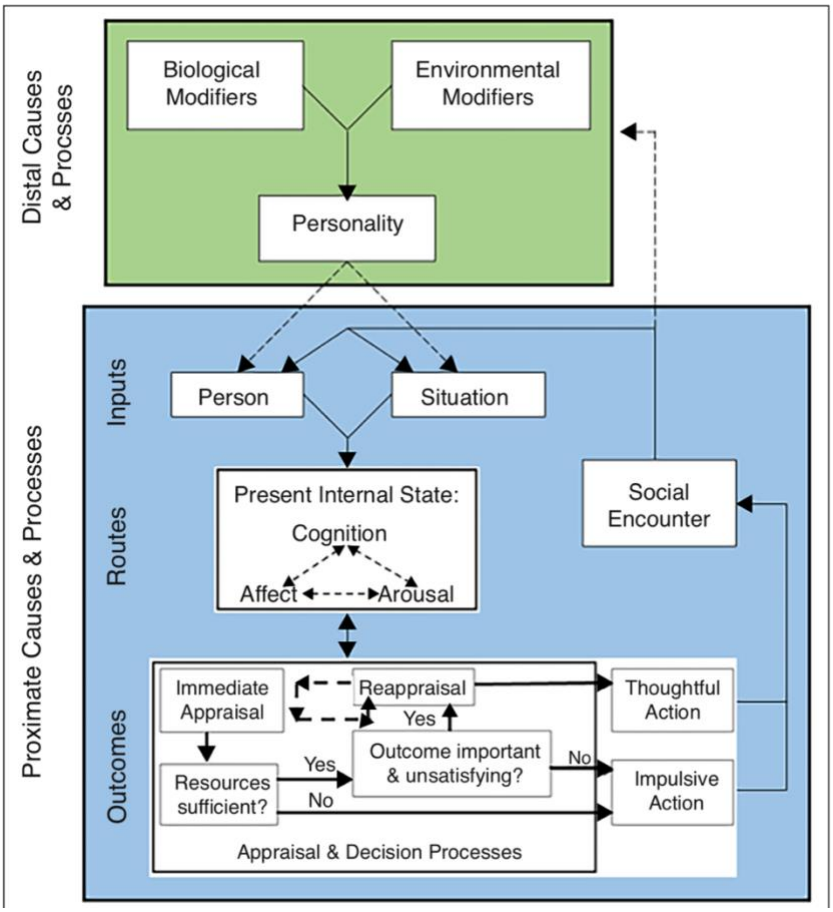

Figure 2. The General Aggression Model: Proximal and Distal Causes and Processes. (Retrieved from Allen, Anderson & Bushman, 2018, pg. 76).

Distal Processes

Distal processes are factors underlying each episode of proximal processes and outline how perpetual environmental factors and biological factors interact to influence the child's personality which can alter the person and situation factors (Allen et al., 2018). The likelihood of developing an aggressive personality can be increased by biological factors including executive functioning deficits, low arousal, ADHD (attention deficit hyperactive disorder), low serotonin, and hormone imbalances (Allen et al., 2018). Environmental factors that may influence children's aggression include antisocial peer groups, repeated exposure to violent media, poor parenting or maladaptive families, deprived living conditions, and cultural norms supportive of violence (Allen et al., 2018).

2.2.4 Summary.

Social Cognitive Theory (Bandura, 1989, 2001), Social Information Processing Theory (Crick & Dodge, 1994) and the General Aggression Model (Anderson & Bushman, 2002) provide a theoretical framework for not only the environmental influences that contribute to learned behaviours and beliefs but also the way children cognitively process social cues and selectively choose a behavioural response. However, Social Cognitive Theory (Bandura, 1989, 2001) and Social Information Processing Theory (Crick & Dodge, 1994) and other theoretical precursors lack generality and fail to capture the complexity of physical aggression, relational aggression and co-morbid aggression in early childhood due to their domain specificity. The General Aggression Model has improved on its precursing theories in several ways. Firstly, it provides a much simpler possible explanation for the phenomenon of human aggression than previous theories. Secondly, it provides a better explanation of aggression by using a multidimensional approach to human aggression which broadens the scope to focus on multiple aspects of aggression. And lastly, it allows for a broader view of

developmental issues which are important to consider when making decisions about child development. Therefore, this thesis will use the General Aggression Model (Anderson & Bushman, 2002) as an integrative framework as it incorporates several domain-specific theories including social-cognitive and social information processing approaches to provide a more comprehensive framework to explain human aggression.

2.3 Individual Factors that Influence Aggressive Behaviour in Preschool-Aged Children

Individual factors are critical to the understanding of why some children are more likely to engage in aggression. The General Aggression Model posits that person factors are central in the decision to respond to social situations with aggression (Anderson & Bushman, 2002). Such characteristics include genetic predispositions, personality traits, and attitudes which together comprise an individual's "preparedness to aggress" (Anderson & Bushman, 2002, pg. 35). Person factors are considered to be fairly stable across time and situations, as long as a person's use of the same knowledge structures are consistent (Allen et al, 2018), and will also influence what situations in social contexts children will seek out as well as avoid (Anderson & Bushman, 2002). There are person factors identified in young children that have contributed to higher levels of aggression including children's normative beliefs about aggression (Swit et al., 2016), social information processing (Crick et al., 2002), gender (Archer, 2004; Hyde, 1984; Loeber et al., 2013), and age (Côté et al., 2006; Swit & McMaugh, 2012). The following sections will demonstrate the need to explore personal factors to understand the aetiology of physical, relational, and co-morbid aggression in young children.

2.3.1 Child normative beliefs.

In the present study, the term normative beliefs describes how acceptable a child perceives a behaviour to be. The General Aggression Model (Anderson & Bushman, 2002) and Social Cognitive Theory (Bandura, 1989, 2001) posit that during early childhood, children develop internal standards for social behaviours, including aggressive behaviour. A key element to children's internal scripts is the development of beliefs about whether the use of different aggressive behaviours is acceptable or not (Huesmann & Guerra, 1997). It has been said that children's attitudes that are accepting of aggressive behaviours play a crucial role in children's likelihood to use aggression in response to social cues (Swit et al., 2016). Associations between normative beliefs and behaviour have been examined by Huesmann and Guerra (1997) who suggested that behavioural scripts are "filtered through self-regulating beliefs" (pg. 409). Children with normative beliefs about aggression readily and automatically access aggressive scripts to solve conflicts and are therefore more likely to display higher levels of aggression compared to children who believe it is unacceptable to act aggressively (Huesmann & Guerra, 1997).

Over the years, research has increasingly paid attention to this phenomenon and have investigated the way a child's set of beliefs can be related to their observed behaviour. Firstly, normative beliefs in older child populations will be discussed. A longitudinal study by Huesmann and Guerra (1997) was conducted to examine the effect of normative beliefs about aggression on peer-nominated aggression in children using a large sample of elementary school children living in low socioeconomic areas. Results showed that in younger children, individual differences in normative beliefs about the acceptability of aggression seemed to predict how aggressive they behaved, however for older children, individual differences in aggressive behaviour seemed to be affected by preceding differences in normative beliefs about aggression (Huesmann & Guerra, 1997). That is, individual

differences of aggressive behaviour in children who were in first and second grade was predictive of their normative beliefs about aggression in the third grade. However, the individual differences of normative beliefs of children in the fourth and fifth grade predicted their level of aggression used in the sixth grade (Huesmann & Guerra, 1997). These findings have been further emphasised by a newly released study conducted by Vu, Van Heel, Petry and Bosmans (2019) who, using a short-term longitudinal study, examined the associations between normative beliefs approving the use of aggression and overt aggression in a sample of Vietnamese adolescents. The variables of the study, overt (physical) aggression and attitudes and beliefs regarding aggression, were measured using self-report questionnaires. The results confirm Huesmann and Guerra's (1997) findings by suggesting that normative beliefs approving the use of aggression were positively correlated with overt aggression and that normative beliefs predicted an increase in overtly aggressive behaviours over time (Vu et al., 2019). Werner and Nixon (2005) also investigated the association between normative beliefs about aggression and aggressive behaviour using a sample of adolescents from fifth grade to eighth grade in America. The assessment of aggression was measured using a self-report, while normative beliefs were measured using an adaptation of Huesmann and Guerra's (1997) Normative Beliefs About Aggression Scale (NOBAGS). The measure was revised to include relational aggression to identify the unique associations between beliefs about physical and relational aggression and the use of physically and relationally aggressive behaviours. The results indicated that associations between normative beliefs and aggressive behaviour were specific to the form of aggression. For example, adolescents' normative beliefs about relational aggression predicted their self-report of relational aggression but not physical aggression, while normative beliefs about physical aggression predicted self-reports of physical aggression but not relational aggression (Werner & Nixon, 2005). This study provided evidence that physical and relational aggression are uniquely different constructs

and that differences in social-cognitive processes between physical and relational aggression do exist. However, these studies only investigated samples of adolescent populations and more research needs to be conducted on the associations between normative beliefs about aggression and aggressive behaviours in early childhood populations.

There are a small number of studies that have examined the association between normative beliefs and aggression in early childhood (Goldstein et al., 2002; Swit et al., 2016). For example, Goldstein and colleagues (2002) investigated preschool-aged children's normative beliefs and prescriptive beliefs about physical and relational hypothetical provocation scenarios. Participants included 99 children between the ages of 32 months to 67 months and the majority were of white ethnicity from middle-class families. To assess children's beliefs about the acceptability of physical and relational aggression, children were presented with two illustrated stories featuring preschool-aged children engaging in an overt (physical) provocation and one relational provocation. The children were then asked a series of questions including what the victim would do (normative response), what the victim should do (prescriptive responses), and lastly, to indicate how wrong they thought the particular physical, relational or verbal aggressive responses to the scenarios were by rating the three possible aggressive responses. The results indicated that young children considered relational aggression to be more acceptable than the use of physical aggression and verbal aggression, which they identified as more normative (Goldstein et al., 2002).

Another study that examined normative beliefs and aggression in the early childhood setting was Swit and colleagues (2016) who investigated normative beliefs of preschool-aged children and whether these beliefs influence children's behavioural responses or are related to their engagement in relationally aggressive behaviours. Unlike Goldstein and colleague's (2002) study who relied on a verbal delivery of hypothetical provocation with basic illustrations that some young children may have found challenging to understand, Swit and

colleagues (2016) developed a new 'preschooler friendly' measure to assess children's normative beliefs and behavioural responses. This measure used Duplo toy figurines along with detailed illustrations to enact the aggression scenarios, while children were able to interact with the toys to show their responses. Results of the study suggested that relationally aggressive children were not accepting of the use of relational aggression and tended to use more prosocial problem-solving behaviours to resolve conflict (Swit et al., 2016). These results conflict with the previous studies using adolescent participants and Goldstein and colleagues (2002) study, however, only relationally aggressive children were involved and therefore it is important to include physically aggressive children and co-morbidly aggressive children to gain a better perspective of the effect of normative beliefs in all types of aggression common in preschool-aged children.

Current research to date has suggested a positive correlation between young children's beliefs about the acceptability of using aggressive behaviour and their use of these behaviours in social settings. However, this has primarily been investigated only using children who display physical or relational aggression.

2.3.2 Social information processing.

Research conducted using the Social Information Processing Model (Crick & Dodge, 1994) has suggested that children who engage in high levels of aggression tend to show deficits at one or more steps of processing, in particular, assessing social cues and selecting a response to social situations (Crick et al., 2002). These deficits in processing social information are likely to contribute to their use of aggressive behaviours during social interactions (Crick et al., 2002). Research with preschool-aged children has demonstrated that children who are overtly aggressive show biases in their social information processing (Helmsen, Koglin, Petermann, 2011). For example, overt aggression is associated with

hypervigilance to aggressive cues (Gouze, 1987), aggressive response generation (Coy, Speltz, DeKlyen, & Jones, 2001; Green, Cillessen, Rechis, Patterson, & Hughes, 2008) and attribution of hostile intent in ambiguous situations (otherwise known as hostile attribution bias) (de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002; Runions & Keating, 2007). Furthermore, previous research that has investigated differences in children's interpretations of their peers' intent has provided empirical evidence that children who are physically aggressive display hostile attributional biases in response to ambiguous provocation scenarios (Crick et al., 2002). Furthermore, according to this model, children who have hostile attributional biases are more likely to react to a peer with aggression even when no malicious intent is intended by the peer.

Contrary to these findings, some studies that have examined relational aggression in young children through to adolescence have found that relationally aggressive children's social cognitions may be more sophisticated than non-aggressive children's social cognitions (Crick & Rose, 2000; Nelson et al., 2005; Nelson, Robinson, Albano & Marshall, 2010). For example, Nelson and colleagues (2010) discovered that young children who use relational aggression and prosocial behaviours concurrently, stand out more among their peers and are more likely to be popular therefore creating a buffer from peer rejection. Furthermore, a study that examined the 'clarification of goals step' within the SIP model and its association with relational aggression found that in a sample of fourth to sixth graders, relational aggression was positively correlated with maintaining peer-group relationships, goals of self-interest, revenge, personal control and avoiding trouble (Delveaux & Daniels, 2000). These findings provide evidence that children who use relational aggression may have more advanced social cognition and can understand and use social information to manipulate peers or more effectively harm others (Swit et al., 2016). While these findings largely diverge from the traditional view that biases and deficits in social information processing are linked to

aggression (Cillessen & Mayeux, 2004), the differences in social cognition and skills between children who display different levels and types of aggression suggest a need for further exploration particularly with young children as well as co-morbidly aggressive children and typically developing children where there is little empirical data.

The present study has a focus on the mechanisms underlying the processes young children use when considering how to respond to a social cue, and how they select a behavioural response in different social situations, that has been inferred from their beliefs of what is acceptable behaviour. In this context, the Social Information Processing Model suggests that the choice of behavioural response made by a child is influenced by their normative beliefs (Huesmann & Guerra, 1997). Research supports this perspective by providing evidence of children's acceptability of certain behaviours being reflected in their behavioural responses (Bellmore et al., 2005). Furthermore, the Social Information Processing Model (Crick & Dodge, 1994) suggests that a person's interpretation of a social cue and the selection of a behavioural response comes directly before the enactment of the behaviour (Crick & Dodge, 1994). Therefore, children's normative beliefs and their selection of behavioural response is likely to be a good indication of whether they engage in aggressive or non-aggressive behaviour in a real social setting (Bellmore et al., 2005)

This information is crucial in understanding the early development of aggressive behaviours as it provides a framework that has been supported by research, in which the engagement in aggression by some children and not others can be explained and understood. Focusing on children's normative beliefs about aggression and mitigating deficits in children's social information processing may be a more effective way of preventing aggressive behaviours in children.

2.3.3 Gender differences.

2.3.3.1 Aggressive behaviour.

It has been suggested that there is a range of influences that act as causal factors of gender differences in aggression literature (Knight, Guthrie, Page, & Fabes, 2002). For example, Knight and colleagues (2002) suggested that biological and evolutionary predispositions, gender roles, social learning, emotional arousal and emotion regulation, and reactions to provocation all impact on the differences in social behaviours used by boys and girls. Perhaps one of the most pronounced and consistent pieces of evidence in the literature on child development, is that there are higher levels of physical aggression in boys compared to girls (Archer, 2004; Card et al., 2008; Coyne et al., 2011; Hyde, 1984; Loeber et al., 2013). Physical aggression gender differences are rather robust as they have been replicated across many countries and large effect sizes have been found in meta-analyses (Lansford et al., 2012). For example, Lansford and colleagues (2012) investigated gender differences between physical and relational aggression across nine countries with diverse cultural contexts. The results of the study provided strong evidence that across all nine countries, boys reported being more physically aggressive than girls (Lansford et al., 2012). The results from Lansford and colleagues (2012) suggesting that physical aggression is more prevalent in boys than girls makes sense in the context of gender roles, given that boys are perceived as being more dominant and aggressive (Coyne et al., 2011) compared to girls who are expected to be passive and caring (Crick, 1997). Gender-role stereotypes can also be reinforced by parents' own gender-role beliefs and the contribution of these beliefs to gender-differentiated parenting (Endendijk et al., 2017). For example, Endendijk and colleagues (2017) conducted a longitudinal study which investigated the correlations between mothers' and fathers' gender-differentiated use of physical control strategies, gender-role attitudes, and gender differences in child aggression. Results concluded that mothers and fathers with strong

stereotypical gender role beliefs were more likely to use physical control strategies with boys compared to girls, and that father's attitudes around gender roles predicted gender differences in child aggression a year later (Endendijk et al., 2017). Moreover, Möller, Majdandžić, De Vente, and Bögels, (2013) investigated the differences between maternal and paternal parenting behaviours in Western societies and the influence of this on the evolutionary development of boys and girls behaviours. The results indicated that mothers and fathers were more inclined to use parenting behaviours that promoted physical behaviours during social play in their sons, while their daughters were encouraged to display care and nurturing behaviours (Möller et al., 2013).

Relational aggression in the study of child social development was first introduced as a way of understanding a more subtle form of aggression that was assumed to be more common among girls (Lansford et al., 2012). However, unlike the findings in physical aggression, findings of gender differences in relational aggression are unclear. For example, some studies show that girls are significantly more relationally aggressive than boys (Crick et al., 1997, Ostrov and Crick, 2007; Poland et al., 2016) while other studies have found no significant gender differences in the use of relational aggression (Card et al., 2008; Swit & McMaugh, 2012; Swit et al., 2016). Swit and McMaugh (2012) found no gender differences in young children's use of relational aggression which is consistent with a more recent study by Swit and colleagues (2016) which found no gender differences in young children's use of relational aggression as identified in teacher reports. Furthermore, a longitudinal study by Blain-arcaro and Vaillancourt (2017) examined gender differences between physical and relational aggression from a sample of 10-year-olds who were followed through to adolescence. They found that boys engaged in more physical aggression than girls but they did not differ in terms of relational aggression (Blain-arcaro & Vaillancourt, 2017). These results are supported by two large meta-analyses that are cited by most articles investigating

gender differences in aggression. The first is Archer (2004) who reviewed 78 studies that examined indirect aggression (a form of aggression similar to relational aggression) from childhood to adulthood. Results demonstrated that girls displayed more indirect aggression than boys when a teacher report and peer ratings were used to measure aggression, however, when self-report and peer nominations were used to assess aggressive behaviour, no significant gender differences were found (Archer, 2004). Secondly, Card and colleagues (2008) analysed data from 148 studies that examined children's and adolescent's use of direct and indirect aggression. Findings from this meta-analysis were similar to Archer (2004) with Card and colleagues (2008) finding significant gender differences for physical aggression favouring boys, but trivial gender differences for relational aggression.

More recently, gender differences in the developmental trajectories of co-morbid aggression in older childhood populations has also been studied. For example, Ettekal and Ladd (2015) conducted a longitudinal study using a latent growth modelling methodology to examine the benefits and costs of physical and relational aggression on peer relationships with comparisons between aggression subtypes, age and gender. The participants included 477 children from grade 4 who were followed through to grade 8. One of the aims of the study was to measure co-morbid aggression trajectories in relation to gender. The findings demonstrated that it was rare for boys to specialise in only one form of aggression. For example, boys consistently used high levels of relational aggression and physical aggression. However, girls were much more likely to have high levels of relational aggression in combination with lower levels of physical aggression (Ettekal et al., 2015). These results are consistent with younger children as evidenced by a study conducted by Crick and colleagues (1997) who examined the percentage of boys versus girls who could be identified as physically or relationally aggressive in a sample of preschool-aged children. They found that

15% of the boys were classified as physically and relationally aggressive combined compared to only 7% of the girls (Crick et al., 1997).

2.3.3.2 Normative beliefs about aggression.

The body of literature described above has also paid attention to gender differences in children's normative beliefs about the acceptability of physical and relational aggression. In older child populations, gender differences in children's beliefs about the use of physical and relational aggression have been found (Huesmann & Guerra, 1997). Huesmann and Guerra's (1997) gender findings on children's normative beliefs about aggression indicated that males approved of aggression more than females across all age groups in their cohort. Gender differences in children's normative beliefs about relational and physical aggression have also been found in early childhood populations (Goldstein et al, 2002). In Goldstein and colleague's (2002) study, results on gender differences in preschooler's normative and prescriptive beliefs about hypothetical aggression provocations showed that girls were more likely to view relationally aggressive responses to provocation as wrong compared to boys. However, the findings of these studies are small amongst literature and are inconsistent with more recent research that has found little to no gender differences in young children's normative beliefs of aggression. For example, Werner and Hill (2010) conducted a short-term longitudinal study which examined individual and peer-group normative beliefs about relational and overt aggression. The participants included 726 students from grade 3 through to grade 8. Teachers rated child aggression levels of relational and physical aggression and child normative beliefs about overt and relational aggression were measured using items from prior research including Huesmann and Guerra (1997) and Werner and Nixon (2005). Werner and Hill (2010) only found significant gender differences in aggression normative beliefs for overt aggression, where boys were rated higher than girls. However, gender was not related

to relational aggression (Werner & Hill, 2010). This finding seems to follow the same trend in gender differences for children's use of physical and relational aggression and are consistent with a growing body of literature that are finding gender differences in relational aggression are generally small (Card et al., 2008, Swit & McMaugh, 2012). In Swit and colleague's (2016) study investigating normative beliefs of physical and relational aggression in preschool-aged children, results showed that no gender differences were found between aggressive and non-aggressive children's normative beliefs about different forms of aggression. The researchers noted that this could be due to the small sample size used, however, other studies using adolescent participants have also reported similar findings including a longitudinal study conducted by Werner and Nixon (2005). Werner and Nixon (2005) examined normative beliefs and relational aggression and found that gender did not moderate any of the associations found between normative beliefs and aggression. Thus, despite mean differences between boys and girls in self-reported aggressive behaviours and endorsement in positive beliefs about aggression, their results provide further evidence that adolescent boy's and girl's social-cognitive processes operate in a similar way (Werner & Nixon, 2005). There remains a paucity of research exploring whether differences in normative beliefs about aggression exist between boys and girls in early childhood populations, and to date, no research has examined gender differences between physically aggressive, relationally aggressive, co-morbidly aggressive and typically developing children altogether. This thesis will address this limitation.

2.3.4 Age and the development of aggression and normative beliefs.

In the first few years of life, nearly all children are expected to exhibit forms of physical aggression which is known to be especially prevalent in toddlerhood (Tremblay et al., 2004). Relational aggression has also been proven to be a common behaviour in preschool-aged children (Swit et al., 2016) and multiple studies that have examined physical and relational aggression in children have shown age differences that seem to show a different, more consistent trend (Björkqvist et al., 1992, Tremblay et al., 1996, Côté et al., 2006; Swit & McMaugh., 2012; Swit et al., 2016,). For example, Tremblay and colleagues (1996) conducted a study using a population of 22,000 children aged 0 to 11-years-old living in Canada. The results showed that not only did the frequency of physical aggression decrease from age 3 to 11, but indirect aggression also increased between the ages of 4 and 8 (Tremblay et al., 1996). Côté and colleagues (2006) conducted a longitudinal study using the same cohort of children as Tremblay and colleagues (1996) which investigated the trajectories of physical aggression from toddlerhood to pre-adolescence. The children were between the ages of 2 and 11 and were followed over six years. Data about the children's use of physical aggression including kicking and biting, reacting with anger and getting into fights was collected through interviews with the 'Person Most Knowledgeable' (PMK) about the child, which in most cases was the mother. The findings indicated that the mean general aggression scores declined with age, and was also lower for girls. More specifically, in toddlerhood physical aggression was identified in most children's behavioural repertoire but the frequency of physical aggression declined during the preschool and elementary years and was infrequent by age 11 (Côté et al., 2006). This finding seems to reinforce the idea that as children grow older they may develop the capacity to regulate impulsive emotions that could lead to physical acts and therefore the ability to inhibit physically aggressive reactions (Reebye, 2005). More recent research by Swit and McMaugh (2012) found that the older

children in their sample engaged in significantly more relational aggression when compared to the younger children. This could be due to relational aggression emerging later in childhood and remaining somewhat stable (Crick, Ostrov, Burr et al., 2006).

Furthermore, normative beliefs of aggression have also shown to be influenced by age. For example, Swit and colleagues (2016) examined normative beliefs about relational aggression in preschool-aged children and found that younger children held more accepting beliefs of physical and relational aggression when compared to older children (Swit et al., 2016). An explanation for this finding is that as children grow older they learn what is acceptable and what is not based on the consequences carried out when particular forms of aggression are enacted. This can be seen in the instability of aggression trajectories (Tremblay, 2000) where views on aggression may be constantly changing over time. However, more research needs to be carried out on normative beliefs in early childhood populations so that these findings can be solidified with more evidence.

2.4 Outcomes of Aggression in Young Children

Early childhood is a significant developmental period in which major cognitive and social developmental change occurs, influencing the future adjustment of young children. Previous research has shown that characteristic patterns of social behaviour, including aggressive behaviours, are present in children as early as 12 months old and these behavioural styles can be identified across different contexts such as school and the home environment (Holmberg, 1980). Children who display aggressive behaviours at an early age are at an increased risk for adjustment problems (Gower et al., 2014; Marshall et al., 2015; Crick, Ostrov, Burr et al., 2006).

2.4.1 Peer relationships.

Aggressive behaviour has been shown to compromise children's abilities to effectively create healthy peer relationships and is a major threat to preschool-aged children's ability to adapt to the school environment, including relationships with peers (Gower et al., 2014). Coelho and colleagues (2017) conducted a study which examined the quality of play, reciprocal friendship and social acceptance in preschool-aged children. Participants included 128 children ranging from 3 years to 5-years-old. The number of reciprocal friendships was assessed using peer nominations and child social play behaviours were measured using the Penn Interactive Peer Play Scale-Portuguese Version. Social play behaviours were measured using three dimensions; disruption, disconnection, and positive interaction. The disruption subscale measured aggressive and anti-social behaviours such as destroying others' toys, starting fights and arguments. The results indicated that disruption and disconnection were negatively correlated with sociometric status suggesting that children who engage in disruptive play behaviours are less likely to have reciprocal friendships and are less accepted by their peers (Coelho et al., 2017). These findings are also consistent with Persson (2005) who examined the associations between young children's use of aggressive and prosocial behaviours and the types of behaviours that were reciprocated by their peers over three years. Participants included 44 children between 22 months and 40 months old at initial recruitment and were observed in natural settings with peers over two months. Longitudinal associations showed that over time, aggressive children were less likely to receive prosocial peer behaviour and more likely to be targets of peers' aggression (Persson, 2005). Furthermore, Gower and colleagues (2014) examined the role of physical aggression and relational aggression in the transition to preschool and its association with social-psychological outcomes. Their findings showed that physical aggression predicted lower peer acceptance while relational aggression predicted increased peer acceptance. This is consistent with past

research that has shown that relationally aggressive children have positive friend relationships in preschool (Burr, Ostrov, Jansen, Cullerton-Sen, & Crick, 2005).

Researchers have found that children who use high levels of relational aggression may have sophisticated social skills in that they may also strategically use prosocial behaviours to gain social hierarchy (Nelson et al., 2010). Children who can manipulate social relationships well by balancing aggressive and prosocial behaviours are more liked by their peers (Hawley, 2003; Nelson et al., 2005; Nelson et al., 2010; Ostrov et al., 2013). For example, Ostrov and colleagues (2013) examined the relationship between physical and relational aggression and reactive and proactive functions of aggression in preschool-aged children. Based on their results, they concluded that while reactive relational aggression was associated with peer rejection, proactive relational aggression was associated with decreases in peer rejection, which suggests that some children may use relational aggression as an adaptive social strategy towards achieving popularity and social status among peers (Ostrov et al., 2013).

Maladaptive peer relationships in children have also been examined concerning the use of co-morbid aggression in older child populations. For example, Ettekal and Ladd (2015) researched the correlations between children's co-occurring physical and relational aggression trajectories and peer relationships including, peer acceptance, reciprocated friendships, and peer rejection in middle childhood to early adolescence. The findings suggested that children identified as using high levels of co-morbid aggression had an increased likelihood of exacerbating their existing difficulties in peer relationships (Ettekal & Ladd, 2015). More specifically, both males and females with high co-occurring aggression showed increased peer rejection and less reciprocal friendships, which seemed to get worse as children got older. In comparison, children who only expressed heightened levels of one

form of aggression (not co-morbid) seemed to experience fewer difficulties in their initial peer relationships which were maintained or got better over time (Ettekal & Ladd, 2015).

Young children's experiences of positive social interactions contribute significantly to their emotional and social development (Coelho et al., 2017). As preschool-aged children's play and interactions become more complex as they grow, skills such as empathy, cooperation and the ability to deal with conflict and aggression appropriately begin to emerge (Coelho et al., 2017). The development of these skills represents a child's competency to be able to create and maintain healthy dyadic relationships with their peers (Coelho et al., 2017). Therefore, these early experiences of peer rejection and negative peer interactions experienced by aggressive children can contribute to a host of maladaptive social and psychological outcomes including depressive symptoms, diminished sense of self-competence, a decreased future social status and cognitive biases (Gower et al., 2014).

2.4.2 Peer victimisation.

Peer relationships are incredibly important in childhood and adolescence as autonomy increases and peers become prominent in feeling accepted and are the main source of support (Casper & Card, 2017). However, with a peer group comes a context within which negative peer interactions and victimisation can occur. Peer victimisation can be defined as being a victim of intentional acts of aggression by one's peers that are received as harmful (Casper & Card, 2017). Being a victim of peer aggression can have a detrimental effect on children's well-being, behaviour, social-emotional functioning and academic performance (Card & Hodges, 2008) with both overt and relational peer victimisation shown to be associated with internalising and externalising problems (Casper & Card, 2017). Casper and Card (2017) published a meta-analytic review that examined overt and relational victimisation, the overlap of these two constructs and the associations with social-psychological adjustment.

The review included 135 studies of children and adolescents aged 4 to 17-years-old. The findings indicated that social-psychological factors associated with both overt and relational victimisation included externalising symptoms such as conduct problems and delinquency, internalising symptoms including anxiety and depression, low reception of prosocial behaviour from peers, and overt and relational aggression (Casper & Card, 2017).

Furthermore, a study by Blakely-McClure and Ostrov (2018) investigated co-occurring and pure physical and relational aggression in early childhood and the associations of these on later adjustment. The participants included 231 preschool children with a mean age of 47.46 months from the United States. Using the Preschool Peer Victimisation Measure-Teacher Report-Revised, peer victimisation and aggression in early childhood was assessed. The measure assessed physical victimisation, relational victimisation and received prosocial behaviour (Blakely-McClure & Ostrov, 2018). Child behaviour was observed over two months in settings across the schools. Results showed that for girls, co-occurring victimisation at Time 1 was associated with anxious/fearful behaviour and depressed affect at Time 2, however, pure relational victimisation was negatively associated with adjustment problems at Time 2 meaning that experiences of relational victimisation may be more salient for girls (Blakely-McClure & Ostrov, 2018). For boys, a negative association was found between co-occurring victimisation and asocial adjustment, suggesting the experience of victimisation for boys may be associated with different adjustment problems as only depressed affect and anxious/fearful behaviours were measured. Indeed it has been shown in previous studies that peer victimisation in boys is more likely to increase the risk of developing externalising problems rather than internalising problems in early childhood (Crick, Casas, & Ku, 1999; Ladd & Profilet, 1996).

2.4.3 Internalising symptomology.

Internalising symptoms are characterised by depression, anxiety, withdrawal, irritability, and fearfulness (Fanti & Henrich, 2010). Children who display internalising behaviours are at an increased risk of carrying these behaviours into adulthood which can cause a host of psychosocial problems (Marshall et al., 2015) so it is important to understand the factors associated with internalising behaviours in young children. One such factor is physical aggression. For example, a recent study with a sample of preschool-aged children by Krygsman and Vaillancourt (2018) investigated peer victimisation, aggression and depressive symptoms. When analysing the findings of physical aggression, they found a significant relationship between teacher-reported physical aggression and depressive symptoms. This finding is consistent with a study by Campbell, Spieker, Burchinal, Poe, and the NICHD early child care research network (2006) who had moderate and high levels of physical aggression that were stable from birth through to the age of 9. Their findings showed that children who engaged in stable levels of physical aggression long-term were reported by teachers on the Teacher Report Form (TRF) as having high internalising problems, and the children self-reported more depressive symptoms and loneliness than children whose aggression decreased (Campbell et al., 2006). This finding is also consistent with a similar study which showed a positive correlation between early childhood physical aggression and internalising issues such as symptoms of anxiety and depression in adolescence (Weeks et al., 2014).

Internalising symptoms have also been examined in perpetrators of relational aggression, which in young children is a strong predictor of internalising symptoms such as, depression, loneliness, anxiety, and psychosocial maladjustment in the future (Leff et al., 2010). The ability to specifically measure relational aggression as a separate construct from other types of aggression has allowed researchers to identify consequences that are specific to

relationally aggressive behaviours alone. Card and colleagues (2008) conducted a meta-analysis on the negative developmental consequences associated with indirect (i.e. relational aggression) and direct (i.e. physical aggression) aggression and found that indirect aggression was significantly correlated with anxiety and depression. A more recent review by Marshall and colleagues (2015) also investigated the associations between relational aggression and internalizing symptoms, depression, and anxiety and concluded similar findings. The meta-analysis included children between the ages of 5 and 17 from 42 different studies. A correlational analysis of relational aggression and internalising symptoms between all 42 studies revealed a significant small to medium association. Moreover, they found that the association between anxiety and relational aggression was stronger than depressive symptoms (Marshall et al., 2015). This may suggest that children who experience increased levels of anxiety and depression may be less willing to use direct, confrontational means of aggression and more likely to use more subtle forms of aggression such as relational aggression.

Furthermore, research with older children suggests that in some cases children who engage in both forms of aggression are at a greater risk for negative social-emotional wellbeing (Crick, Ostrov, & Werner, 2006). However, co-morbid aggression and social-psychological outcomes have only been examined in older child populations. Crick, Ostrov and Werner (2006) conducted a longitudinal study using a quantitative design to investigate social-psychological adjustment outcomes in groups of physically aggressive, relationally aggressive, co-morbidly aggressive, and non-aggressive children. The researchers first assessed the children during grade 8 in elementary school and were then re-assessed a year later. To assess social-psychological adjustment, teachers reported on two aspects of social-psychological adjustment including internalising symptoms such as depression, anxiety, withdrawal and somatic complaints and externalising symptoms such as aggression, and

delinquency (Crick, Ostrov, & Werner, 2006). Consistent with the researchers' hypotheses, the findings indicated that relational aggression was a significant risk factor for future maladaptive social and psychological adjustment, similar to physical aggression (Crick, Ostrov, & Werner, 2006). Furthermore, the co-morbid group of children were at an increased risk for future adjustment problems compared to the children who were identified as being only physically aggressive or only relationally aggressive (Crick, Ostrov, & Werner, 2006). The relationship between co-morbid aggression and sub-types of externalising and internalising symptoms was examined more specifically by Prinstein and colleagues (2001). They investigated relational and overt forms of aggression in adolescents and the correlations between both aggressive adolescents and victims of peer aggression in predicting social-psychological adjustment. Participants included 566 adolescents from a high school in southern New England. Not only did this study aim to replicate and extend previous work on relational aggression as being a separate construct from overt aggression, and to determine its unique effects on social-psychological adjustment, but to examine the co-occurrence of both overt aggression, relational aggression and victimisation (Prinstein et al., 2001). The findings showed that internalising symptoms in adolescent perpetrators of aggression towards peers were present. For example, overtly aggressive girls had lower self-esteem and higher depressive symptoms, while boys who used high levels of relational aggression, either on its own or co-occurring with overt aggression, had high levels of loneliness. These findings suggest that the use of relational aggression in overtly aggressive girls who display disruptive behaviours may be a crucial factor to investigate during clinical assessments and a key focus in interventions (Prinstein et al., 2001).

2.4.4 Externalising symptomology.

A substantial amount of research has provided evidence that externalising behaviour problems that occur in childhood such as aggression and destructive, oppositional behaviours, are risk factors for later and more significant externalising disorders such as ADHD and delinquency (see Campbell, Shaw & Gilliom, 2000, for a review). Traditionally, researchers have thought that the majority of children develop adaptive skills for managing adverse situations allowing them to behave appropriately and constructively (Tremblay, 2000) and therefore outgrow externalising problems (Campbell et al, 2000) However, for some children, externalising problems in early childhood persist and develop into more serious maladaptive outcomes (Campbell et al, 2000).

There has been limited research to date on the outcomes of aggression in early childhood populations. However, research by Campbell and colleagues (2006) investigated outcomes, including externalising problems, in a longitudinal study which measured children's aggression trajectory from birth to the age of 9, and then examined the outcomes associated at age 12. The researchers collected data on the children's aggressive behaviour through maternal reports by administering the Child Behaviour Checklist (CBCL; Achenbach, 1991a, 1992) six times from when the child was 24 months old, through to 9-years-old. Outcome measures including behaviour problems, social competence and academic performance were measured using The Teacher Report Form (TRF; Achenbach, 1991b, 1992) and peer relations, depression, and risk-taking were measured using child self-reports. The findings on externalising outcomes showed that at age twelve, children identified as following low, moderate, and high stable aggression trajectories were all reported as showing higher externalising problems than children whose aggression decreased over time. Furthermore, children identified as having a moderate-stable early aggression trajectory were rated as showing more externalising problems and elevated scores on measures of inattention

and impulsivity. Furthermore, the children reported themselves as engaging in more risky behaviours and bullying others. Moreover, children identified as following a high-stable trajectory had even more severe externalising problems and numerous ADHD and ODD symptoms, a pattern that has a strong correlation with later delinquency (Patterson, DeGarmo, & Knutson, 2000). Unfortunately, the aggression trajectory only referred to physical aggression and therefore relational aggression was not included in this study.

There has been more research on both physical and relational aggression and externalising outcomes in older child populations. Firstly, a meta-analysis by Card and colleagues (2008) reviewed 148 studies about child and adolescent direct and indirect aggression and examined the developmental outcomes associated with the trajectories of aggression. Results for externalising outcomes specifically showed that direct aggression was strongly and uniquely associated with externalising problems such as conduct problems and emotional dysregulation. And although a weaker association than direct aggression, indirect aggression was also uniquely correlated to conduct problems (Card et al, 2008). Furthermore, the Prinstein and colleagues (2001) study described earlier also investigated externalising outcomes of adolescents who use relational and overt aggression. The results showed that adolescent girls who only used overt aggression or girls who used both overt and relational aggression had significantly increased levels of externalising behaviour when compared to other adolescents in the sample (Prinstein et al., 2001). These externalising problems included conduct disorder and oppositional defiant disorder and the results imply that adolescents who perpetrate relational aggression, as well as overt aggression towards peers, are more likely to display these disruptive behaviour disorders. However, in this particular sample this was only true for girls but not for boys (Prinstein et al., 2001).

In summary, the literature reviewed on outcomes of aggression in childhood demonstrates that all children who engage in non-typical, ongoing physical or relational

aggression or both are at a higher risk developing a diverse range of maladjustment and social-psychological difficulties (Crick, Ostrov, & Werner, 2006) and that these difficulties differ depending on the form of aggression (Blain-acaro & Vaillancourt, 2017). These findings imply a need for identifying different forms of aggression in children and tailoring interventions to suit these children's specific needs and differing outcome trajectories. More importantly, these results show how critical it is for children who display both relational and physical aggression to be identified and provided with intervention as they are at higher risk of future maladaptive outcomes in their peer relationships, as well as internalising and externalising symptoms, compared to children who display only one type of aggression (Crick, Ostrov, & Werner, 2006).

The next chapter describes the research methodology including the research design, participants, measures and data analysis, as well as the procedures used to answer the four research questions: 1) Are there any differences in children's normative beliefs about hypothetical scenarios depicting relational and physical aggression? And can differences be identified between and/or within physically aggressive children, relationally aggressive children, co-morbidly aggressive children and typically developing children? 2) What are physical, relational, co-morbidly aggressive and typically developing children's behavioural responses to relationally and physically aggressive hypothetical provocation scenarios, and are there any differences within and between children? 3) Are children's behavioural responses used to respond to hypothetical scenarios of relational and physical aggression related to their normative beliefs? and 4) Are children's normative beliefs and behavioural responses about physical and relational aggression influenced by the child's gender or age?

Chapter Three: Method

This study examined preschool-aged children's social cognitions about aggression and their use of aggressive behaviours. The content covered so far has provided some context around current gaps in the literature. This study aims to address these gaps by examining the normative beliefs and behavioural responses to hypothetical physical and relational aggression scenarios in a sample of 3 to 5-year-old children categorised as physically aggressive, relationally aggressive, co-morbidly aggressive and typically developing. This chapter outlines the research design of this study followed by a description of the participants, measures and data analysis, as well as the procedures used in each of the two phases of the study.

3.1 Research Design

This study uses a cross-sectional, mixed-method, within-between groups design. A within-between methodological approach was applied to assess the similarities and differences in children's normative beliefs and behavioural responses within each aggression group as well as between the four subgroups of children. A mixed-method design incorporates elements of quantitative and qualitative research methodologies. The triangulation of methods to obtain information enabled the researcher to provide a more holistic approach to the phenomena where the weaknesses of a single method approach were overcome (Mukherji & Albon, 2018). In the present study, mixed methods were used to aid with sampling (using a questionnaire to screen potential participants for interview purposes), decrease data inaccuracy, and to allow the researcher to build on the original survey data and develop an analysis on children's social cognition concerning their use of aggressive behaviours using a qualitative interview (Cohen, Manion & Morrison, 2017). More

specifically, a quantitative measure was used to obtain numerical data from parents on their child's social and non-social behaviours to identify the four aggression subgroups. Once the four subgroups were identified, a qualitative interview was used to obtain rich data from the children about their normative beliefs about aggression and their reason for engaging in prosocial or aggressive behaviours. As young children may not have the linguistic or reading capabilities to complete surveys, it was necessary to use a qualitative interview that was developmentally appropriate to ensure the researcher understood the children's responses and to be sure children understood what was asked of them. For this reason, a semi-structured interview using Duplo toy figurines was administered to assess children's social cognitions about aggression. Children's social cognitions, including their normative beliefs about aggression and their response selection when presented with aggression, are a complex area of development and therefore it was important to identify and administer the most developmentally appropriate measure. The qualitative interview used did not rely on the child's linguistical abilities as toy figurines and pictorial rating scales were used as a means for responding. Therefore, children were able to process the information and express their thoughts freely which could then be accurately interpreted by the researcher. This study consisted of two phases. These are described below.

3.2 Phase One (Online Survey)

Phase one included an online survey that required parents to rate their child in terms of physical aggression, relational aggression and prosocial behaviours based on observations of their child in social settings. Phase one was necessary to identify children's use of social and non-social behaviours to determine four subgroups of children including physically aggressive, relationally aggressive, co-morbidly aggressive and typically developing. The creation of four aggression groups was necessary for phase two of the study to understand the

differences in children's social cognitions within and between the four subgroups. This section will describe the participants, measure, and data analysis for phase one.

3.2.1 Participants.

Participants included 97 parents/caregivers who had at least one child between the ages of 3 and 5, and who were residing within Christchurch, New Zealand. We were unable to collect all of the children's ages, however, out of the 62 children whose ages were collected, their ages ranged from 36 months to 68 months old (M = 48.03; SD =7.68). Within the total sample of children, 46 were girls and 51 were boys. All parents were mothers. This is not surprising and is consistent with previous parenting research studies (Hurd & Gettinger, 2011; Swit, McMaugh, & Warburton, 2018; Werner & Grant, 2009).

3.2.2 Measure.

3.2.2.1 Parent report of child aggressive and prosocial behaviour.

The Preschool Social Behaviour Scale - Teacher Form (PSBS-TF; Crick et al., 1997) was used to assess children's aggressive and prosocial behaviours, as reported by their parent. Despite originally being designed as a teacher report, the PSBS-TF did not need any adaptation for its use with parents as it was able to be completed based on parent's observations in the home setting and other social contexts such as the local playground and when playing with other children outside of the early childhood education setting (Crick et al., 1997). For the current study, the three items measuring depressed affect and two items assessing peer acceptance were removed because these constructs were not relevant to this study, reducing the measure to 16 items. Three subscales from the PSBS-TF were used in this study; physical aggression, relational aggression, and prosocial behaviour (see Appendix A). Six items assessed physical aggression such as "Hits or kicks others", six items assessed

relational aggression such as “Telling peers not to play with or be a peer’s friend”, and four items assessed prosocial behaviour such as “Says nice things to other peers” (Crick et al., 1997). Prosocial behaviour items acted as a positive buffer in between aggression items to mitigate potential negative response biases. The researcher also used children’s scores on the prosocial behaviour subscale to identify typically developing children who would be used as a comparison group in phase two of the research. Parents rated each of their child’s aggression and prosocial behaviour on a 5-point Likert scale ranging from 1 (never true) to 5 (always true). The survey was administered and completed by parents through Qualtrics. The internal consistency of the PSBS-TF has previously been found to be acceptable (i.e., Cronbach’s a > 0.70). Reliability for this study was acceptable for physical aggression (α = 0.77), relational aggression (α = 0.73), and prosocial behaviour (α = .85).

3.2.3 Data analysis.

Children’s scores from the PSBS-TF was exported into excel and then inputted into the statistics software SPSS. The descriptive statistics were run in SPSS which gave the mean and standard deviation for the physical aggression subscale, the relational aggression subscale and the prosocial behaviour subscale. These standard deviations were calculated to identify the four aggression subgroups of children who would be invited to participate in the social-cognitive interviews. Firstly, the researcher divided the number of items on each subscale with the child’s total score. This provided a mean score for each child on relational aggression, physical aggression, and prosocial behaviour. Children whose mean scores were 1 standard deviation or more above the population mean on the physical *or* relational aggression subscales were classified as highly physically or relationally aggressive. Children whose scores were 1 standard deviation or more above the population mean for both the physical *and* relational aggression subscales were considered to be co-morbidly aggressive.

To identify the typically developing group of children, a range of 0.5 standard deviations above and below the mean was calculated for the physical, relational and prosocial subscales. Children who had average scores within this range on all three subscales were identified as typically developing. A standard deviation of 0.5+ above and below the mean was used to identify the typically developing children because these children are classified as having normative levels of aggression and therefore their scores of physical aggression, relational aggression and prosocial behaviours needed to be close to the mean. Children who did not meet the criteria for any of the four aggression subgroups were not included in phase two of the study. Swit and colleagues (2016), successfully utilised a standard deviation approach from scores collected from the PSBS-TF to determine extreme groups of aggressive and non-aggressive preschool-aged children and was also used in older studies to identify groups of aggressive children (Crick & Grotpeter, 1995; Rys & Bear, 1997; Tomada & Schneider, 1997). No further statistical analyses were conducted using the data obtained for phase one.

3.3 Phase Two (Social-Cognitive Interview)

Phase two of this study consisted of a social-cognitive interview which required the children to respond to questions based on four hypothetical aggression scenarios. The social-cognitive interview was necessary to collect data on the children's beliefs about aggressive behaviours as well as their behavioural responses to make inferences and to compare this data within and between the four subgroups of children to determine whether there were any differences in the way they process social information. This section will describe the participants and measure for phase two.

3.3.1 Participants.

Out of the total sample population, 35 children fit the criteria for one of the four aggression subgroups based on their parent's ratings of their physical and relational aggression and prosocial behaviour (9 physically aggressive, 7 relationally aggressive, 6 co-morbidly aggressive, 13 typically developing children). Out of those identified, nine caregivers agreed for their child to participate in phase two of the study. Therefore, a total of nine children made up the sample population for phase two of the study. Children ranged from 3 years and 5 months (41 months) to 4 years and 10 months old (58 months) (M = 48.2 months, SD = 6.8 months). Four were boys and five were girls. Out of these children, three were identified as engaging in normative levels of aggression and comprised the typically developing subgroup. Two children were identified as engaging in high levels of relational aggression and comprised the relationally aggressive subgroup. A further two children were identified as engaging in high levels of physical aggression and comprised the physically aggressive subgroup of children. Lastly, two children were identified as engaging in high levels of both physical and relational aggression and comprised the co-morbid aggressive subgroup (See Table 3).

3.3.2 Measure.

3.3.2.1 Children's normative beliefs and behavioural responses to aggression.

To assess children's normative beliefs about the acceptability of physical and relational aggression, and the types of behaviours they would use to respond to hypothetical aggressive scenarios, an interview method developed by Swit and colleagues (2016) was used (See Appendix B.) The interview consisted of four hypothetical scenarios of common aggressive and prosocial behaviours observed in young children (Swit et al., 2016). Two scenarios described children engaging in physical aggression and another two scenarios

described children engaging in relational aggression. The scenarios are described in Table 1. To ensure the hypothetical scenarios were socially and developmentally appropriate for preschool-aged children to understand, Duplo toy figurines were used to enact the scenarios. Children were able to use the Duplo toy figurines to act out their responses to each of the questions. Drawings of features within the hypothetical scenarios, such as a playground, were also used to illustrate contextual features of each scenario. This is consistent with the procedures used by Swit and colleagues (2016).

Table 1.Physical and Relational Aggression Provocation Scenarios used in the Social-Cognitive Interview.

Scenario 1: Physical aggression A child is playing with some toys. Another child throws a toy at the child.
Scenario 2: Relational aggression Two children are playing with the train set on the floor. Another child comes over and starts playing with the trains too. The children playing say to the other child, "You can't play with us. GO AWAY!".
Scenario 3: Physical aggression This child is building a block tower. Another child comes over and knocks over the block tower.
Scenario 4: Relational aggression A child is building a sandcastle. Another child comes over and asks to play. The child in the sandpit says, "NO! You're not my friend!".

An example of one of the physical aggression scenarios describes a child throwing a toy at another child on purpose. The researcher first described the hypothetical scenario. For example, '*A child is playing with some toys. Another child throws a toy at the child'.* Figure 3 demonstrates the accompanying illustrations used to provide the context of the playmat with the toys on it.

Figure 3. Duplo Figurine and Illustrative Contextual Feature.

Duplo toy figurines were used by the researcher to enact a child coming over to the play mat, picking up a toy, and throwing it at the other child (See Figure 4). The way that the researcher explained and enacted the scenario left no question that the actions of the aggressor were intentional. So that no gender bias occurred in the children's answers and to make the scenarios more relatable, the Duplo figurines used were always the same gender as the child being interviewed. The interview sessions were video-recorded to allow for cross-coding of the data.

Figure 4. Enactment of the Hypothetical Scenario using Duplo Figurines.

Once the scenario had been enacted by the researcher, children were asked a series of questions about each scenario that assessed (1) their normative beliefs about the acceptability of physical and relational aggression and (2) their behavioural response choice to each provocation.

To assess normative beliefs children were asked, *"Is it okay to throw toys at other children?"* After children provided a 'yes' or 'no' response, they were then asked to indicate whether they felt the aggressive act was 'a little bit okay', 'very okay', 'a little bit wrong', or 'really wrong' with the help of a pictorial rating scale. This pictorial scale was used as a visual prompt consisting of a small circle and a large circle to indicate how acceptable or unacceptable the child thought the provocation was. This was to ensure that the child and researcher were both of the same understanding (see Figure 5, Swit et al., 2016). Children were required to point at either the little circle or the big circle and state how wrong or okay they felt the provocation was (Swit et al., 2016). This was repeated for all four hypothetical scenarios.

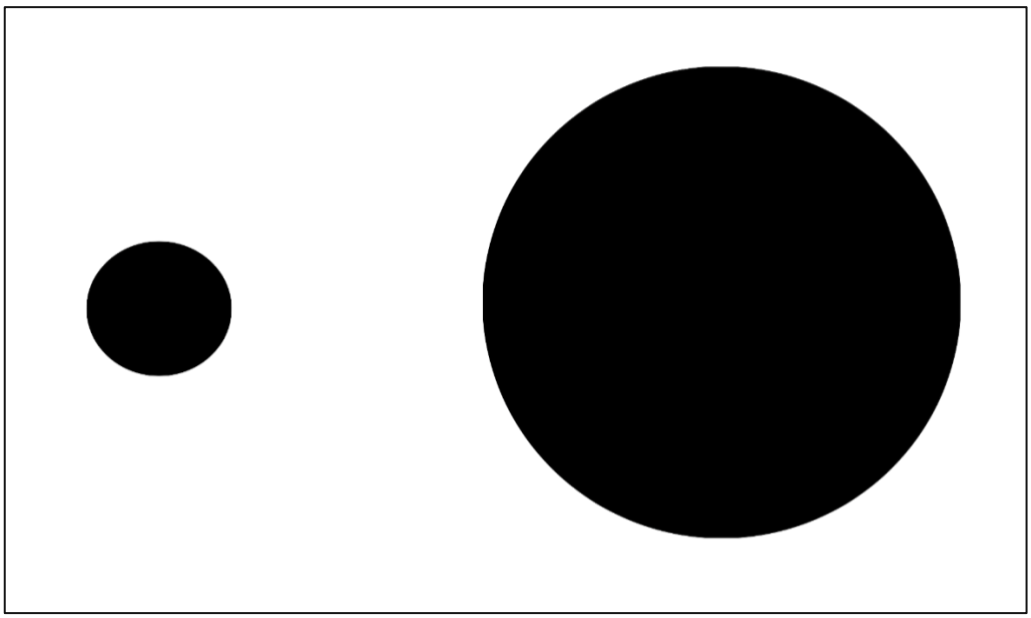

Figure 5. Pictorial Rating Scale used in the Social-Cognitive Interview.

To assess children's behavioural responses, they were asked, "*What do you think the child (victim) will do now?", followed by "What else could the child do?".*

3.3.3 Data analysis.

Children's responses were transcribed verbatim on a word document. Consistent with the scoring procedures used by Swit and colleagues (2016), children's ratings of how wrong they thought each behaviour was were used as an indicator of their normative beliefs. Children's normative beliefs were coded numerically from 1 = aggression is very okay to 4 = aggression is very wrong. A total score was then obtained by summing the ratings for physical aggression and relational aggression scenarios separately and calculating the mean. Lower scores indicated beliefs that aggression was normative (i.e. acceptable) while higher scores indicated less normative beliefs about aggression (i.e. unacceptable).

To identify children's behavioural responses, the transcript was then sorted through by highlighting the children's responses to code them into behavioural themes. Swit and colleague's (2016) original codes of problem-solving responses and aggressive responses were used to analyse children's behavioural responses (See Appendix B for examples of qualitative problem-solving and aggressive solution responses to relational and physical aggression scenarios). For example, physical aggression and relational aggression responses were identified using definitions and examples of these behaviours in literature. Furthermore, responses that showed the child's ability to think about an alternative response that was not aggressive and would result in a positive outcome were interpreted as prosocial problem-solving responses. Children's responses that did not fit within these original categories were coded using open thematic coding guided by SIP Theory (Crick & Dodge, 1994). Overlapping themes that occurred in the children's responses were collapsed to create six main themes: (1) physical aggression response (e.g. *"Throw a toy back at him"*), (2)

relational aggression response (e.g. *"Say they can't play with me"*), (3) emotional reaction in response to the aggression (e.g. The victim that had the toy thrown at them will *"cry"*), (4) removing access to toys (e.g. *"Take all the toys away to play with them by myself"*), (5) inquire or investigative response (e.g. ask *"Why did you throw a toy at me?"*), and (6) prosocial problem-solving response (e.g. *"Go and tell a teacher"*). Examples of each of these responses can be found in Table 5. Only one response of *"I don't know"* was recorded as the child could not think of a response.

To ensure the researcher had interpreted the child's description of the behavioural response correctly, the child's enactment of the behaviour using the Duplo toy figurines was also taken into consideration. For example, some children used the Duplo toy figurines to enact out the behavioural response they were describing such as kicking a figurine with another figurine. This meant that what the child said verbally was strengthened by their enactment and the researcher was able to be confident about their interpretation of the behavioural response. This added to the robustness of the data collection. Furthermore, the responses given by the children were discussed amongst two researchers until a consensus was reached on which category the responses related. This was to ensure responses were not subject to researcher bias and therefore strengthening reliability. Consensus between the two researchers was achieved for 100% of the responses.

A table was then drawn on an A3 piece of paper which was split into nine columns for each of the children. The rows then included the child's aggression subgroup, their age, gender, normative belief scores for both physical aggression and relational aggression scenarios, and lastly the theme for each of their four behavioural responses. The purpose of this table was to place all of the data together so that triangulations could be made between all variables to identify important findings and discussion points. The researcher chose to use

a manual approach to analysing this qualitative data because of the small number of participants obtained for this study.

3.4 Procedure

Approval from the University of Canterbury Human Ethics Review Committee was obtained prior to the beginning of this study (reference number: HEC 2018/58: see Appendix C). Parents and their children were recruited from around Christchurch New Zealand to participate in an online survey. Participants were recruited through online advertisements which were posted in purposive social media platforms, such as Facebook pages (a list of Facebook groups contacted have been included in Appendix D.) and posters were put up in Christchurch Woman's Hospital. Posters included information about the study as well as a link to the online Qualtrics survey which parents were invited to complete (See Appendix E to view poster). These Facebook pages and organisations were selected as they included parents who were representative of the target population. Parents who chose to participate in the study were able to follow the link on the advertisement and complete the survey in their own time. The first page of the online survey included an information sheet outlining the study requirements, followed by a consent form (See Appendix F) that was required to be signed with an email address. This was indicative of the participant's signature to give consent for participation. The participant was then directed to the survey.

After children were identified as meeting the criteria for each subgroup, their parents were sent an email with an invitation for their child to participate in the social-cognitive interview. This email included the information sheet and consent form outlining the requirements for phase two of the study (see Appendix G). After the children's' parents provided consent for their child's participation, a time and date that was suitable for them and their child to come in for the interview was arranged. For the aggression subgroups (physical,

relational, and co-morbid), those children who had the highest scores above the one standard deviation criteria were invited to participate in phase two of the study first to target the most aggressive children within each subgroup. If the parents of that child declined to participate, the child with the next highest score was then invited to participate and so on. As the typically developing children all fit within 0.5 standard deviations above and below the mean on all three subscales, this same rule did not apply and the researcher contacted parent's in the same order as they appeared on the survey database. Due to the time constraints of a Master's thesis and the limited number of children who met the criteria for the four aggression subgroups, the researcher stopped inviting participants once there was a minimum of two children per subgroup willing to participate in phase two of the study. One of the social-cognitive interviews scheduled did not go ahead due to the child being tearful and unwilling to engage. Therefore, the interview was terminated and the researcher conducted another interview with a different child from the same aggression subgroup.

At the beginning of the interview, child assent was obtained and any mothers who had not sent a signed consent form via email were provided one to fill out at the clinic before the interview was conducted. Each of the interviews was conducted at the Pukemanu Clinic on the Dovedale Campus at the University of Canterbury, apart from one which was conducted at the James Hight Library discussion rooms. A camera was set up in the corner of the room facing the table and chairs where the toys, pictorial scale and pictures had been set up. Mothers were asked to wait outside and were not present during the interview to ensure that children were not influenced by their mother's presence. An open-door policy was used so that the children and parents did not become anxious due to separation. First, the researcher made the child aware of the camera, introduced herself, and then introduced the child to the toy figurines being used throughout the interview. The researcher explained that *"We will be playing with these toys"* and *"I'm going to read you some stories and ask you a few*

questions". The researcher then made the child aware that there was no right or wrong answer and that they were just interested in what the child had to say. The same researcher enacted the scenarios in the same sequence for each child. The Duplo toy figurines were made available for the child to play with throughout the interview. After the interview, the child was thanked for their participation, and the mother was invited back into the room.

The interviews were video-recorded to analyse the information collected and allowed for a second coder to code the children's responses to strengthen reliability. All participants were made aware of this in the information sheet, were asked for their permission to video-record in the consent form and were reminded before the commencement of the interview. Parents were also informed of the confidentiality and security of all data collected. All parents permitted video-recording, and therefore, handwritten notes were not required.

Chapter Four: Results

This chapter presents the findings on physically aggressive, relationally aggressive, co-morbidly aggressive, and typically developing preschool-aged children's normative beliefs and behavioural responses to four hypothetical physical and relational aggression scenarios. First, the results of phase one of the study are described including descriptive statistics which show the average scores for each subscale measured by the PSBS-TF, followed by the gender and age distributions of the children in the sample. This is followed by the results found in phase two of the study which answer each of the four research questions: 1) Are there any differences in children's normative beliefs about hypothetical scenarios depicting relational and physical aggression? And can differences be identified between and/or within physically aggressive children, relationally aggressive children, co-morbidly aggressive children and typically developing children? 2) What are physical, relational, co-morbidly aggressive and typically developing children's behavioural responses to relationally and physically aggressive hypothetical provocation scenarios, and are there any differences within and between children? 3) Are children's behavioural responses used to respond to hypothetical scenarios of relational and physical aggression related to their normative beliefs? And 4) Are children's normative beliefs and behavioural responses about physical and relational aggression influenced by the child's gender or age?

4.1 Phase One Results

4.1.1 Descriptive statistics.

Table 2 lists the average scores of each subscale measured by the PSBS-TF. These scores are reflective of the scores provided by parents who participated in phase one of this study (see page 51 for a description of phase one). These results indicate that overall this population of children engage in low levels of aggression relative to prosocial behaviour.

Table 2. Descriptive Statistics: Children's Physical Aggression, Relational Aggression and Prosocial Average Scores.

	N	Mean	Std. Deviation
Physical Aggression	97	1.49	.46
Relational Aggression	97	1.32	.38
Prosocial Behaviour	97	3.97	.54
Valid N (listwise)	97		

4.1.2 Gender and age distributions.

It was predicted that boys would be more likely to be rated as physically aggressive, while girls would be more likely to be rated as relationally aggressive by their parents (Swit, 2019). In the sample population of this study, only boys were identified as meeting the criteria for the physical aggression subgroup, and only girls were identified as meeting the criteria for the relational aggression subgroup. In contrast, the co-morbid children consisted of one boy and one girl and the typically developing children consisted of one boy and two girls (see Table 3).

Table 3. Gender and Age of Each Child and the Average Age in Months for Each Subgroup of Children and the Total Sample.

Aggression Subgroups	**Gender**	**Age**	**Mean Age**
Physical Aggression Subgroup (*n*=2)			
Child 1	Boy	41 Months	M = 41.5
Child 2	Boy	42 Months	SD = 0.7
Relational Aggression Subgroup (*n*=2)			
Child 1	Girl	42 Months	M = 49.5
Child 2	Girl	57 Months	SD = 10.6
Co-morbid Aggression Subgroup (*n*=2)			
Child 1	Boy	55 Months	M = 50
Child 2	Girl	45 Months	SD = 7.1
Typically Developing Subgroup (*n*=3)			
Child 1	Girl	58 Months	M = 50.7
Child 2	Boy	49 Months	SD = 6.7
Child 3	Girl	45 Months	
Total Sample (N=9)			
	5 Girls	*NA*	M = 48.2
	4 Boys		SD = 6.8

Overall, the age of the children ranged from 3 years and 5 months (41 months) to 4 years and 10 months (58 months). Out of this sample, the physically aggressive children were the youngest group when averaging the age of each subgroup. The relational aggression subgroup and co-morbid subgroup had very similar mean ages putting them in the middle of the range. And lastly, the typically developing children had the highest mean age making them the oldest subgroup of children.

The phase two results, including the children's normative beliefs and behavioural responses, will now be presented for each subgroup of children followed by the gender and age differences and lastly the influence of the children's normative beliefs on their behavioural responses.

4.2 Phase Two Results

4.2.1 Normative beliefs about physical and relational aggression.

The mean scores of children's beliefs about the acceptability of physical and relational aggression for each child by subgroup and total subgroup means are reported in Table 4. Consistent with the scoring procedure used by Swit and colleagues (2016) lower scores (1 & 2) indicate more acceptability of aggression while higher scores (3 & 4) indicate less acceptability.

Table 4. Mean Normative Belief Scores for the Total Subgroup and for Each Child by Aggression Subgroup.

	PA subgroup		RA subgroup		Co-morbid subgroup		Typically Developing subgroup		
	Child 1	Child 2	Child 1	Child 2	Child 1	Child 2	Child 1	Child 2	Child 3
Physical aggression	2.5	3.5	4	4	4	4	3.5	3.5	2.5
Relational aggression	3.5	3	4	3	2	4	4	3.5	3.5
Total subgroup (Mean)	PA: 3 RA: 3.25		PA: 4 RA: 3.5		PA: 4 RA: 3		PA: 3.16 RA: 3.67		

4.2.1.1 Physically aggressive children.

As shown in Table 4, the scores for child 1 indicate beliefs that are more accepting of physically aggressive behaviours, and beliefs that are not accepting of relationally aggressive behaviours. For child 2, his scores indicate that he perceives both physical aggression and relational aggression to be unacceptable, however, the slight difference in his mean score may indicate that he perceives physical aggression to be more unacceptable than relational aggression. Overall, this subgroup of children believes both physical and relational aggression are unacceptable behaviours, however, physical aggression may be slightly more acceptable.

Scenario 1 and scenario 3 present physically aggressive hypothetical scenarios. Scenario 1 presents a child throwing a toy at another child. Child 1 reported that this behaviour was ‘really wrong’. When asked why this behaviour was really wrong, he said, “Because it might hurt”. When asked why he thought the child threw a toy at the other child

he said, “Because he’s a mean boy”. Child 2 also reported that this behaviour was ‘really wrong’. When asked why this behaviour was really wrong he said, *“I don’t throw toys at my friends”* and *“Because he’s naughty”.* Then, when asked why he thought the child threw a toy at the other child he said, “*He was a naughty one”.*

Scenario 3 presents two children knocking over another child’s blocks. Child 1 reported that this behaviour was ‘really okay’ and when asked why he thought it was okay he responded, *“Because they’re good”*. Initially, when first read the scenario and asked why he thought the child kicked over the other child’s block tower he responded saying, *“Because he’s a bum”* and *“Because he’s mean and he’s a butt”*. These responses may indicate that this child associates physical aggression with not being a nice person, although, he expressed that it is acceptable behaviour. Child 2 reported that this behaviour was ‘a little bit wrong’. When asked why he thought this behaviour was a little bit wrong he said, *“Because it’s not fair”*. Then when asked why he thought the child knocked over the other child’s blocks he said, *“Because he (one of the boys running) stands on it and they broke”.*

Scenario 2 and scenario 4 present relationally aggressive hypothetical scenarios. Scenario 2 presents two children playing with a train set when another child comes over and starts playing with the trains too. The children playing say to the other child, ‘‘You can’t play with us. GO AWAY!’’. Child 1 reported that this behaviour was ‘a little bit wrong’. When asked why this behaviour is really wrong he gave no response and instead asked, *“Why are they playing?”*. After Child 1 was given a response from the researcher to his question, he then preceded to enact the victim kicking over the perpetrators. When asked why he thought the two children told the other child to go away he said, *“Because they don’t like him”*. Child 2 indicated this behaviour as being ‘a little bit wrong’. When asked why this behaviour was a little bit wrong he said, *“Because I wouldn’t throw toys at my friends”* and, *“I’m a good boy at preschool”*. When asked why he thought the two children told the other child to go away

he said, *"Because he's naughty"* and, *"He's walking away".* Then he preceded to enact the perpetrator kicking the victim.

Scenario 4 presents a child making a sandcastle when another child comes along and asks if they can play. The child in the sandpit then responds with, ''NO! You're not my friend!''. Child 1 reported that this behaviour was 'really wrong'. When asked why this behaviour was a little bit wrong, he responded with, *"Because someone should do it"* and then later changed his answer to, *"They're both standing up in the sandpit and he (the perpetrator) says 'Yes' now"*. The change of response was interpreted by the researcher as child 1 deciding that the perpetrator would allow the victim to play rather than tell him to go away. When asked why he thought the child said the other child can't be their friend, he responded by saying, *"Because he's a dick".* Child 2 indicated that this behaviour was 'a little bit wrong'. When asked why this behaviour was a little bit wrong he said, *"Because it's naughty"*. When asked why he thought the child told the other child to 'go away', he said, *"Because he kicked him" (*followed by an enactment of child 2 knocking over the boy figurine in the sandpit with the other toy figurine). He also said, *"Because he's his best friend (the other boy in the sandpit), but he's not his best friend (boy wanting to play)".*

4.2.1.2 Relationally aggressive children.

As seen in Table 4, the scores for Child 1 indicate that she perceives both physical and relational aggression to be unacceptable behaviours. For Child 2, her scores suggest she perceives the use of physical and relational aggression as being unacceptable, however, they also indicate that she perceives relational aggression to be a more acceptable behaviour than physical aggression. Overall, this subgroup of children believe that both physical and relational aggression are unacceptable behaviours, however, physical aggression is slightly less acceptable.

Scenario 1: Child 1 reported that this behaviour was 'really wrong'. When asked why she thought this behaviour was really wrong she said, *"Because it will hurt".* Furthermore, when asked why the child threw a toy at another child, she justified this behaviour by saying, *"Because she didn't want to play with her".* Child 2 also reported that this behaviour was 'really wrong'. When asked why she thought the behaviour was really wrong she said, *"Because it might hurt people".* Furthermore, when asked why the child threw a toy at another child, she responded, *"Because she's angry".*

Scenario 3: Child 1 reported that this behaviour was 'really wrong'. When asked why she thought this behaviour was really wrong she said, *"Because sometimes that hurts people's feelings"*. Furthermore, when asked why she thought the children knocked over the other child's blocks, she responded by saying, *"Because they were running and then they go ahh! (enacts figurines falling over the blocks) and fall over"*. This response seemed to suggest that the child perceived this behaviour as unintentional. Child 2 reported this behaviour as being 'really wrong'. When asked why she thought the behaviour was really wrong she said, *"Because otherwise it might hurt her feelings".* Furthermore, when asked why she thought the children knocked the blocks over she said, *"Because they thought it would be nice"* and *"Because she built it so hard"*.

Scenario 2: Child 1 reported that this behaviour was 'really wrong'. When asked why she thought this behaviour was really wrong she said, *"Because if we do that it will hurt their feelings".* Furthermore, when asked why she thought the child told the other child to go away she said, *"Because they didn't wanna share with the trains"*. Child 2 reported that this behaviour was 'a little bit wrong'. When asked why she thought this behaviour was a little bit wrong she said, *"Because they might feel sad because they're not letting her play with them".* Furthermore, when asked why she thought the two children told the other child to go away she said, *"Because they don't want to play with them"*

Scenario 4: Child 1 reported that this behaviour was 'really wrong'. When asked why she thought this behaviour was really wrong she said, *"Because sometimes they don't wanna play with anybody, but sometimes they do wanna play with somebody".* Furthermore, when asked why she thought the child said the other child wasn't her friend she said, *"Because she'll (the victim) knock it over"*. Her reasoning for the relationally aggressive behaviours enacted in the hypothetical scenario seemed to suggest that she thought the aggressive behaviours enacted by the perpetrator were done intentionally and for justifiable reasons. Child 2 reported that this behaviour was 'a little bit wrong'. When asked why she thought this behaviour was a little bit wrong she said, *"Otherwise she would go tell the teacher".* Furthermore, when asked why she thought the child said the other child wasn't her friend she said, *"Because she (the perpetrator) thinks she (the victim) might break the castle".*

4.2.1.3 Co-morbidly aggressive children.

Child 1's normative belief scores suggest that he perceives relational aggression as being acceptable compared to the physically aggressive behaviours described in the scenarios. For Child 2, her scores suggest that she holds very low normative beliefs of aggressive behaviour and perceives the use of both relational and physical aggression as unacceptable. Overall, this subgroup holds low acceptability of the use of physical and relational aggression, however, physical aggression was perceived as less acceptable than relational aggression.

Scenario 1: Child 1 reported that this behaviour was 'really wrong'. When asked why he thought this behaviour was really wrong he said, *"Because it's not okay"* and *"Because you don't throw stuff at people".* Furthermore, when asked why the child threw a toy at the other child he said, *"Because he thinks he's a naughty boy"*. Child 2 also reported that this behaviour was 'really wrong'. When asked why she thought the behaviour was really wrong

she said, *"Because it hurts to throw things at people".* Furthermore, when asked why she thought the child threw a toy at the other child she said, *"Because she wanted to play"*.

Scenario 3: Child 1 reported that this behaviour was 'really wrong'. The researcher was unable to ask about why the child thought the behaviour was really wrong. When asked why he thought the children knocked over the other child's blocks, he responded by saying, *"Because they think he was building bad"* and *"And they think he hated those two and he (the perpetrator) said 'Go away you two!".* Child 2 also reported that his behaviour was 'really wrong'. When asked why she thought the behaviour was really wrong she said, *"Because it's naughty of them"*. Furthermore, when asked why she thought the children knocked over the other child's blocks she said, *"Because they were wanting to go outside"*.

Scenario 2: Child 1 reported that this behaviour was 'a little bit wrong'. When asked why he thought this behaviour was a little bit wrong he said, *"Because if we do that it will hurt their feelings".* Furthermore, when asked why he thought the children told the other child to go away he said, *"Sometimes some people wanna say 'go away' because they don't want them to break their creation/ break the train tracks"* and *"Because the trains have magnets on them so he can pretend to pull them off".* When asked why he thought the children told the other child to go away, his initial response was, *"Because he threw the toys at these two"*. The researcher re-phrased the question as it was clear he did not understand that this scenario was different from the first one. After the question was re-phrased the reason he gave the child for acting this way was*, "They think he wants to go away".* Child 2 reported this behaviour as being 'really wrong'. When asked why she thought the behaviour was really wrong she said, "*Because it hurts their feelings*". When asked why she thought the children told the other child to go away she said, *"Because they didn't want her to play"*.

Scenario 4: Child 1 reported that this behaviour was 'really okay'. When asked why he thought this behaviour was really okay he said, *"Because he doesn't want to play with him because he'll stomp on it".* Furthermore, when he was asked why he thought the child said the other child couldn't be their friend he said, *"Because he's his friend*" and pointed to a Duplo toy that was not included in the scenario. After directing him back to the two toys in the scenario and explaining it again, his response was, *"You don't have the same clothes on"* and *"He doesn't have the same t-shirt, or hair, or pants. He's black and he's white".* It appears this child was using physical differences between the two Duplo figurines as a reason for why he thought the child said the other child can't be their friend. On the other hand, Child 2 reported that this behaviour was 'really wrong'. When asked why she thought the behaviour was really wrong she said, "*Because it hurts their feelings*". When asked why she thought the child told the other child they couldn't be their friend she said, *"Because she didn't want her to play with her".*

4.2.1.4 Typically developing children.

The findings in Table 4 demonstrate that all three typically developing children perceive hypothetical scenarios depicting physical and relational aggression as unacceptable. Interestingly, Child 3 held beliefs that are more accepting of physical aggression compared to Child 1 and Child 2.

Scenario 1: Child 1 reported that this behaviour was 'really wrong'. When asked why she thought this behaviour was really wrong she said, "*Because it's mean"*. Furthermore, when asked why the child threw a toy at the other child she said, *"I don't know"* and could not come up with a reason when prompted further. Child 2 reported that this behaviour was 'really wrong'. When asked why he thought this behaviour was really wrong he said, "*Because it's not nice"*. Furthermore, when asked why he thought the child threw a toy at the other child he said, *"I don't know"*. Child 3 reported that his behaviour was 'a little bit

wrong'. When asked why she thought the behaviour was a little bit wrong she said, *"Because it's not nice"* and *"Because it's naughty"*. When asked why the child threw a toy at the other child she said, *"She's naughty (the girl who had toy thrown at her), and she's happy (the girl who threw toy)"* as well as, *"Because she's silly"*.

Scenario 3: Child 1 reported that this behaviour was 'a little bit wrong'. When asked why she thought the behaviour was a little bit wrong she said, *"Because it's naughty"*. Furthermore, when asked why she thought the children knocked over the other child's blocks, she responded by saying, *"Because she's angry or something"*. Child 2 reported that his behaviour was 'a little bit wrong'. When asked why he thought this behaviour was a little bit wrong he said, *"Because it's not".* He then grabbed the Duplo figurines and started smacking them together saying, *"Punch, punch, punch".* Furthermore, when asked why he thought the children knocked over the other child's blocks he said, *"Because it's not fair"* and *"Because it's not fine"*. Child 3 reported that this behaviour was 'a little bit okay'. When asked why she thought the behaviour was a little bit okay she said, *"Because she likes doing that (knocking over other people's blocks)", "And they cry"*. When asked why she thought the children knocked over the other child's blocks she said, *"Because it's funny"*.

Scenario 2: Child 1 reported that this behaviour was 'really wrong'. When asked why she thought this behaviour was really wrong she said, *"Because it's mean".* Furthermore, when asked why she thought the children told the other child to go away she said, *"I don't know"*. Child 2 reported that this behaviour was 'a little bit wrong'. When asked why he thought the behaviour was a little bit wrong he said, *"Because it's not"*. When asked why he thought the children told the other child to go away he said, *"Because it's not nice"* and *"Because it's not fair"*. Child 3 reported that this behaviour was 'really wrong'. When asked why she thought the behaviour was really wrong she said, "*Because it's angry"*. The researcher prompted further and asked *"Is it not okay to be angry?"* to which Child 3

responded, *"No"*. Furthermore, when asked why she thought the children told the other child to go away she said, *"Because they're naughty"*.

Scenario 4: Child 1 reported that this behaviour was 'really wrong'. Child 1 was not given an opportunity to respond to why she thought this behaviour was really wrong. Furthermore, when asked why she thought the child said the other child couldn't be their friend she said, "I don't know". Furthermore, Child 2 reported that this behaviour was 'really wrong'. When asked why he thought the behaviour was really wrong he said, *"Because it's not"*. Furthermore, when asked why he thought the child said the other child couldn't be their friend he said, *"Because it's not fair"*. Lastly, Child 3 reported that his behaviour was 'a little bit wrong'. Child 3 was not given an opportunity to respond to why she thought this behaviour was a little bit wrong. Furthermore, when asked why she thought the child said the other child couldn't be their friend she said, *"Because she didn't want to play with them"*.

4.2.1.5 Gender and age differences.

Due to a lack of statistical power, a quantitative analysis of gender and age was not computed. Instead, observations made by the researcher about the qualitative data that was collected was used to analyse and answer this research question.

Firstly, it was predicted that boys would be more likely to perceive physically aggressive behaviours as more acceptable compared to girls. However, due to findings on gender differences for relational aggression being equivocal, we did not expect to find any gender differences in relational aggression in our study. An investigation into the gender differences in children's beliefs about the acceptability of hypothetical scenarios depicting physical and relational aggression did not show any differential trend for boys and girls. Four out of the five girls rated both relational and physical aggression scenarios as wrong, and two out of four boys rated both relational and physical aggression scenarios as wrong. Therefore, two boys and one girl indicated they thought either physical aggression or relational

aggression was okay. The two boys were from the physical and co-morbid subgroups, and the girl was from the typically developing subgroup.

Secondly, it was predicted that younger children would be more likely to perceive aggressive behaviours as acceptable than older children. However, the results showed that age did not seem to have much of an impact on children's normative beliefs. There was no clear differential trend in children's normative beliefs about hypothetical relational and physical aggression scenarios and their age. Most of the children identified both physical and relational aggression as being 'a little bit wrong' or 'really wrong' and this was no different for younger and older children. The only children that expressed the behaviours displayed in any of the hypothetical scenarios were a little bit okay or really okay were all different ages (i.e. 45 months, 55 months, and 41 months old).

4.2.1.6 Summary.

The findings on each subgroup's mean normative belief scores for physical and relational aggression are shown in Figure 6. Lower scores (1 to 2) indicate more acceptability of aggression while higher scores (3 to 4) indicate less acceptability.

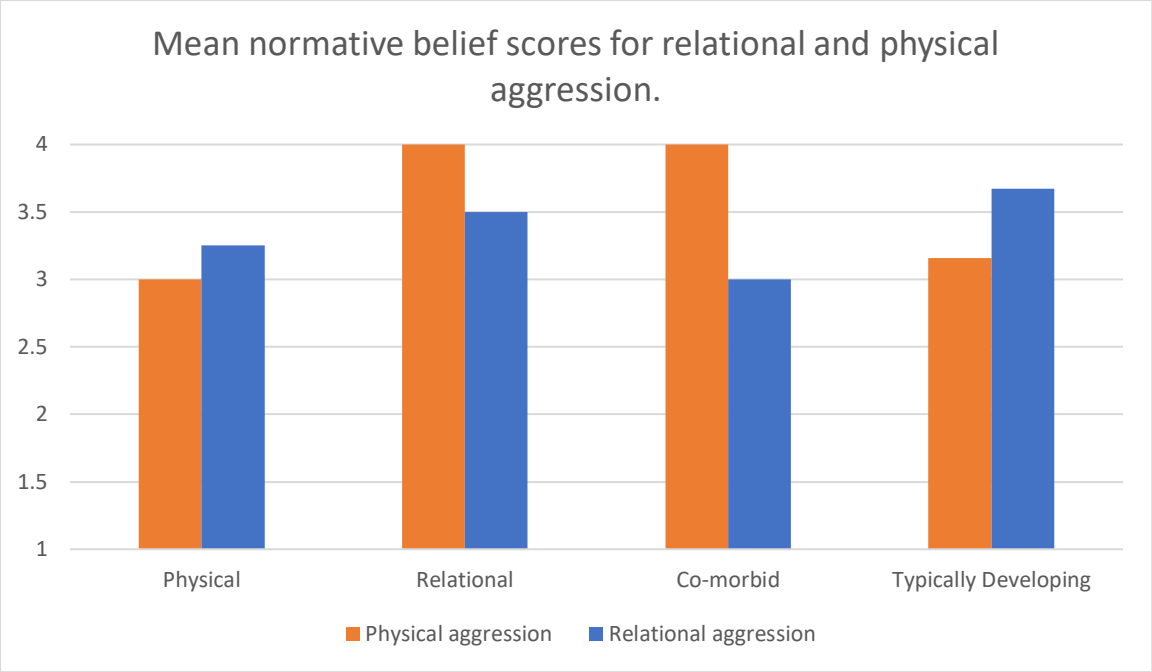

Figure 6. Overall Normative Beliefs which are a Combined Mean Score for Each Subgroup obtained from the Relational and Physical Aggression Hypothetical Scenarios.

Overall, the mean normative belief scores showed that none of the aggression subgroups identified physical aggression or relational aggression as being acceptable. The mean normative belief scores range from 3 to 4 which are higher scores and indicate less acceptability. When examining differences in normative beliefs between physical and relational aggression *within* each aggression subgroup, it can be seen that children identified as physically aggressive, based on parent ratings, perceived physical aggression as slightly more acceptable compared to relational aggression. This finding was consistent with our original hypothesis. Relationally aggressive children, on the other hand, perceived relational aggression as slightly more acceptable compared to physically aggressive behaviours. Children identified as co-morbidly aggressive perceived relational aggression as more acceptable than physical aggression. Finally, typically developing children showed normative beliefs that followed a similar trend to physically aggressive children, with this subgroup perceiving physical aggression to be slightly more acceptable than relational aggression. When examining the differences in normative beliefs about physical and relational aggression

between each aggression subgroup, it can be seen that the typically developing children perceived physical and relational aggression as less acceptable compared to physically aggressive children overall (See Figure 6). However, an unexpected finding was that the typically developing children perceived physical aggression as being less serious compared to the relational and co-morbid subgroups of children. Interestingly, children identified as co-morbidly aggressive perceived relational aggression as more acceptable than the relationally aggressive children. Overall, the co-morbid children were the most accepting of relational aggression, while the physically aggressive children were the most accepting of physical aggression (See Figure 6). A key theme that came through when examining the rationale for why the behaviours were wrong was the notion that being aggressive towards a peer would result in either hurting other people physically or hurting their feelings as well as the notion that aggressive behaviours are naughty and mean and that you may get into trouble. Furthermore, two children, one from the relational group and one from the co-morbid group, seemed to understand the negative impact that relational aggression can have on other children's thoughts and feelings.

Three children out of the nine in this sample indicated that behaviour described in one of the hypothetical scenarios was okay. Child 1 from the physically aggressive subgroup reported scenario 3 as being 'really okay'. His rationale behind this was that the child was *"Really good"*. Child 1 from the co-morbidly aggressive subgroup reported scenario 4 as being 'really okay'. His rationale behind this was that the child in the scenario did not want to play with the other child because *"He'll stomp on it"*. Lastly, Child 3 from the typically developing subgroup reported scenario 3 as being 'a little bit okay'. Her reason for this was because the child liked knocking over other children's blocks.

Overall, neither gender nor age seemed to have much of an impact on children's normative beliefs.

The next section will describe the results of the four aggression subgroups' behavioural responses to hypothetical physically and relationally aggressive scenarios.

4.2.2 Behavioural responses to hypothetical scenarios.

4.2.2.1 Physically aggressive children.

The physically aggressive subgroup of children recommended mostly physically aggressive responses to each of the physical and relational aggression hypothetical scenarios. Of the 9 responses given, 8 were physically aggressive, and one was coded as prosocial problem-solving (see Table 5 for frequency counts of behaviour responses). Examples of physically aggressive behavioural responses included, *"Go and run and knock someone else's blocks over with the boys"* and *"He'll put sand in their eyes".* This suggests that children who were rated by their parents as engaging in high physical aggression were also more likely to suggest physically aggressive behavioural responses to hypothetical provocation. However, the prosocial problem-solving response of *"Move away"* also demonstrates that in some cases, even physically aggressive children can use prosocial problem-solving responses.

Table 5. Frequency Counts and Examples of Behavioural Responses of Physically Aggressive, Relationally Aggressive, Co-morbidly Aggressive and Typically Developing Children.

	Example	Physically Aggressive Children	Relationally Aggressive Children	Co-morbidly Aggressive Children	Typically Developing Children	Total
Physical Aggression Responses	*"Throw it at him"*	8	0	4	5	17
Relational Aggression Responses	*"You can't play with us"*	0	0	0	0	0
Emotional Reaction Responses	*"Cry or something"*	0	0	0	1	1
Inquire or Investigate Responses	*"Say something- why did you kick my blocks over?"*	0	0	0	1	1
Prosocial problem-solving responses	*"Tell the teacher"*	1	8	4	4	17
Removing access to toys	*"Steal the spade and bucket"*	0	0	0	2	2
I don't know Responses	"I don't know"	0	0	0	1	1

4.2.2.2 Relationally aggressive children.

The relationally aggressive subgroup of children suggested prosocial problem-solving responses for each of the relational and physical aggression hypothetical scenarios. Examples of behavioural responses included, *"She will say sorry (the perpetrator)"*, "*She will just walk away and they (the perpetrators) can play with it"*, and *"Tell the teacher".* These results suggest that children who were rated by their parents as being highly relationally aggressive

are more likely to recommend behavioural responses that align with prosocial problem-solving behaviours.

4.2.2.3 Co-morbidly aggressive children.

The children in the co-morbid subgroup had equal frequency counts for both physically aggressive responses and prosocial problem-solving responses. When looking at each child's responses individually, Child 1 used all physically aggressive behaviours such as *"He will grab the toy, then throws it at him"* and *"He will kick them in the face"*. In comparison, Child 2 used all prosocial problem-solving behaviours in response to the hypothetical scenarios including, *"Tell the teacher"* and *"Go away and play on the playground".* These findings suggest that children who are identified as co-morbidly aggressive may use a range of physical aggression or prosocial problem-solving behaviours.

4.2.2.4 Typically developing children.

Physically aggressive responses had the highest frequency count for this group of children with 5 out of the 14 responses indicating the use of physical aggression in response to the relational and physical aggression hypothetical scenario. For example, when asked what the victim in the scenario would do next, responses included, *"Throw it (a toy) at him", "I think they're gonna punch each other",* and *"Kick them (the perpetrator) in the face*".

This subgroup of children also had the largest variety of behavioural responses compared to the other subgroups of children, with responses being coded as an emotional reaction, removing access to toys and inquisitive or investigative responses. For example, Child 1 recommended an investigative behavioural response, *"Say something-why did you kick my block over?"* and an emotional response *"She will cry or something"* to describe the hypothetical victim's response to receiving physical aggression. Furthermore, when asked how the victim will respond to relational aggression, Child 1 responded with *"Go to a*

different place and take all the toys to play with" which was interpreted as removing access of toys from the other children as well as a prosocial problem-solving approach by removing herself from the situation and going to a different place. Similarly, Child 3 described how the victim would respond to relational aggression with a behaviour indicative of removing access to toys, for example, *"Steal the spade and bucket, play with it in the corner".*

The typically developing subgroup of children also presented 4 prosocial problem-solving responses out of the 14 responses given. Child 1 and Child 2 both gave responses which are representative of prosocial problem-solving with responses such as, *"Go tell mum", "Pick them up (her blocks) and go away",* and *"He (the victim) has to clean them (the blocks) all up"*.

4.2.2.5 Gender and age differences.

When looking at the differences in behavioural response frequency counts between boys and girls in Figure 7, it can be seen that boys' behavioural responses describing physical aggression were more frequent (*n*=14) compared to girls' responses (*n*=3). Girls' behavioural responses described prosocial problem-solving more frequently (*n*=15) compared to boys (*n*=2). Another observation is that girls' behavioural responses also included emotional responses, removing access to toys, and inquisitive/investigative responses whereas boys primarily described physical aggression and a smaller number of prosocial problem-solving behavioural responses. No relational aggression behavioural responses were provided by any of the children in this sample.

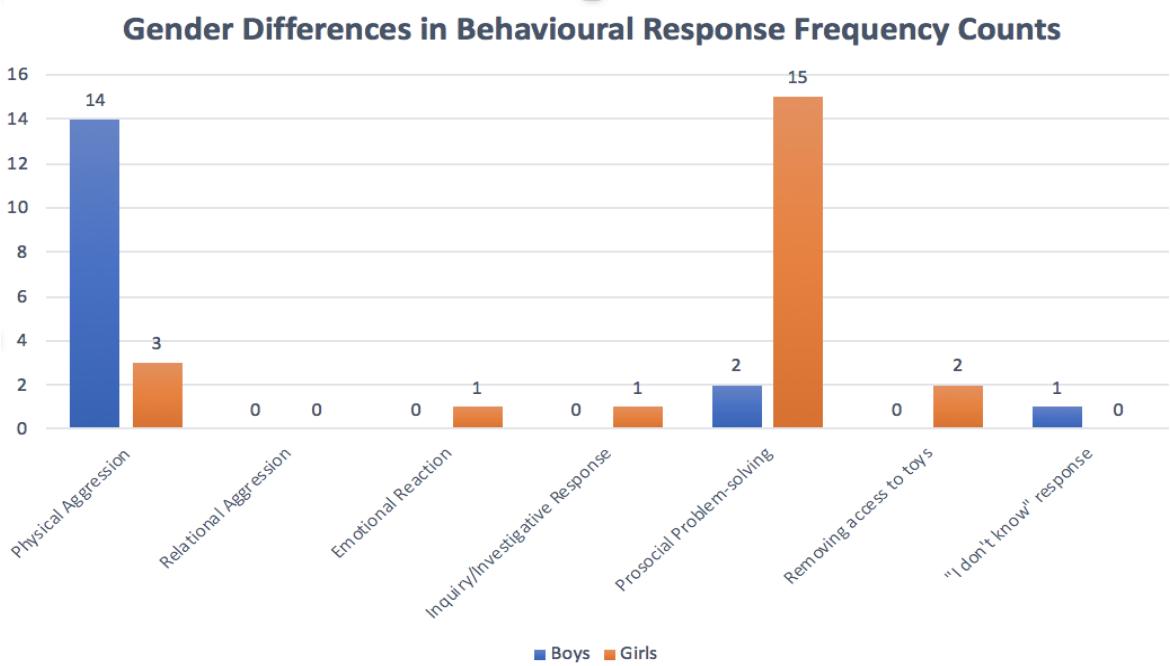

Figure 7. Gender Differences in Behavioural Response Frequency Counts.

Furthermore, it was predicted that younger children would be more likely to suggest aggressive behaviours in response to the hypothetical relational and physical aggression scenarios compared to older children. Analyses of age and behavioural responses showed some trends among and between subgroups. The physically aggressive subgroup had the youngest combined average age of 41.5 months. The two children both gave behavioural responses to the hypothetical scenarios which were physically aggressive. The relationally aggressive subgroup consisted of a younger child of 42 months and an older child of 57 months. These two children were very different in age with an age gap of 15 months, however, their behavioural responses to hypothetical scenarios depicting physical and relational aggression were the same. Therefore, the similarity in their responses did not appear to be the result of age. The co-morbid group consisted of one 55-month-old boy making him 10 months older than the girl who was aged 45 months at the time of the interview. Unexpectedly, the older child used all physically aggressive behavioural responses while the younger child used all prosocial problem-solving responses for each of the hypothetical scenarios. The typically developing subgroup whose combined mean age was

50.6 months, making them the oldest subgroup of children on average, used a wider range of behavioural responses. The oldest child at 58 months was the only child to give an emotional response and an inquiry/inquisitive response out of all of the subgroups. Furthermore, she also had the largest frequency of prosocial problem-solving responses within her subgroup, while the two younger children were more likely to give physically aggressive responses.

4.2.2.6 Summary.

The results from the behavioural responses collected indicated that physically aggressive and typically developing children recommended mostly physical aggression behavioural responses to hypothetical scenarios depicting aggression. In comparison, relationally aggressive children suggested only prosocial problem-solving responses. Furthermore, the co-morbid subgroup had equal frequency counts for both physically aggressive responses and prosocial problem-solving responses. Investigation of gender and age differences in children's behavioural responses to hypothetical scenarios showed that boys' described physically aggressive behavioural responses more frequently compared to girls. In contrast, girls recommended prosocial problem-solving behavioural responses more frequently compared to boys. Furthermore, it appeared that age did not have a significant effect on children's behavioural responses to hypothetical scenarios of physical and relational aggression. The only exception was that the physically aggressive subgroup comprised of the two youngest children and whose behaviour responses were largely physically aggressive, and the typically developing children, who were the oldest group on average, gave a wider variety of responses compared to the children in the other subgroups.

The next section will describe the findings on the influence of children's normative beliefs on their behavioural responses to physical and relational hypothetical provocations.

4.2.3 Relationship between normative beliefs and behavioural responses.

As the sample size was too small for statistical analysis, a correlation could not be computed. However, an analysis of the qualitative interview data was examined to explore the relationship between children's reported normative beliefs and behavioural responses to relational and physical aggression hypothetical scenarios. It was predicted that children's normative beliefs about the acceptability of relational and physical aggression would influence the behavioural responses they described in response to each of the hypothetical scenarios. Interestingly, children across all four subgroups identified nearly all of the behaviours in the scenarios as either being a little bit wrong (n = 3) or really wrong (n = 4) (see Figure 6). Despite this, there was still a large number of children that used aggressive responses in their behavioural responses to hypothetical perpetrators in the scenarios (n = 5). For example, five out of nine children rated most of the physical and relational aggression behaviours as being wrong but still described physically aggressive behaviours as an appropriate response to the hypothetical scenarios. Only three children, two from the relational aggression subgroup and one from the co-morbid aggression subgroup, identified both physically and relationally aggressive behaviours as being wrong and then used all prosocial problem-solving behaviours in response to all of the aggression-provoking scenarios. One child from the typically developing group who identified all behaviours as being wrong used behaviours such as emotional reaction, inquisitive or investigative behaviours, removing access to toys, and prosocial problem-solving responses. Lastly, only three responses (out of 36 possible responses) were perceived as either 'a little bit okay' (n = 2) or 'really okay'(n = 1). The three children who gave these 'okay' responses all went on to recommend physical aggression for that particular scenario.

4.2.3.1 Summary.

The majority of the children in our sample population identified both of the physical and relational aggression hypothetical scenarios as being wrong, however, five of these children still went on to recommend physically aggressive behavioural responses, while four children went on to recommend non-aggressive behaviour responses. Furthermore, only three responses out of a possible 36 were perceived as okay, and the children who gave these responses all went on to recommend physically aggressive behavioural responses.

This next chapter will review the aims of the study, briefly summarise the key findings of each research question and provide explanations for each finding as well as make links between our findings and previous literature. The chapter will then go on to discuss the strengths and limitations of the study as well as implications of the study and recommendations for future research.

Chapter Five: Discussion

This study aimed to investigate physically aggressive, relationally aggressive, co-morbidly aggressive, and typically developing preschool-aged children's normative beliefs and behavioural responses about hypothetical relational and physical aggression scenarios. Examining gender and age differences within these subgroups of children was also of interest. While previous research has identified differences in relationally aggressive and non-aggressive preschoolers (Swit et al., 2016), to our knowledge, no studies have assessed the normative beliefs of young children who engage in both high levels of both relational and physical aggression (comorbid aggression). Research suggests co-morbidly aggressive children are more likely to experience negative socio-psychological outcomes above and beyond children who engage in only one form of aggression (Crick, Ostrov, & Werner, 2006; Ettekal & Ladd, 2015). However, there remains a gap in our understanding of whether co-morbidly aggressive children engage in differential social-cognitive processes compared to non-aggressive children or children who use only one form of aggression. Given the associations demonstrated between young children's normative beliefs about aggression and their aggressive behaviours (Goldstein et al., 2002; Swit et al., 2016) practitioners and researchers need to examine the social-cognitive processes of children who use different forms of aggression, to more effectively provide targeted interventions. This information provides us with a greater understanding of the thought processes that might influence children's use of different forms of aggression.

5.1 Children's Normative Beliefs about Aggression

The first goal of this study was to examine whether there were any differences between and/or within physically aggressive, relationally aggressive, co-morbidly aggressive and typically developing children's normative beliefs about relational and physical aggression. Overall, all four subgroups of children tended to identify physical and relational forms of aggression as wrong behaviours. Only three children, one physically aggressive, one co-morbidly aggressive and one typically developing, responded with 'okay' to one of the hypothetical scenarios. However, when examining the differences between the four aggression subgroups, clear differences in normative beliefs were identified. For example, it was found that physically aggressive children perceived physical aggression as more acceptable compared to relational aggression, whereas relationally aggressive children perceived relational aggression as more acceptable compared to physical aggression. Furthermore, co-morbidly aggressive children rated relational aggression as being more acceptable than physical aggression. And lastly, the typically developing children rated physical aggression as being more acceptable than relational aggression. Overall, the physically aggressive children were the most accepting of physical aggression, while the co-morbid and relationally aggressive children were equally the least accepting of physical aggression. And lastly, the co-morbid children were the most accepting of relational aggression, while the typically developing children were the least accepting of relational aggression overall. Examination of the rationale as to why some of the behaviours were wrong provided key themes that the aggressive behaviour would hurt the victim in some way as well as a consensus that it was mean or naughty. Furthermore, only children from the relationally aggressive subgroup and the co-morbidly aggressive subgroup seemed to understand the impact that relational aggression can have on other children's thoughts and feelings.

Physically aggressive children were more accepting of physical aggression compared to relational aggression, whereas relationally aggressive children were more accepting of relational aggression compared to physical aggression. These findings support the original hypothesis of this study and are consistent with previous research that has shown that children who hold beliefs approving of the use of physical aggression in social interactions are more physically aggressive (Werner & Nixon, 2005) and that children who view relational aggression as an acceptable behaviour are more likely to be relationally aggressive (Werner & Hill, 2010). The General Aggression Model (Anderson & Bushman, 2002) and Social Cognitive Theory (Bandura, 1989, 2001) explain how children's beliefs about aggression influence their preparedness to aggress. These theories posit that beliefs are developed early in life and these directly influence children's use of aggressive behaviours (Huesmann & Guerra, 1997). Children with attitudes that are accepting of aggressive behaviours are more likely to hold beliefs which normalise the use of aggression, and therefore readily access aggressive scripts when confronted with social conflict (Huesmann & Guerra, 1997). This has been shown to play a crucial role in children's likelihood to use aggression in response to social cues (Swit et al., 2016).

Overall, the co-morbid subgroup did not perceive either physical or relational aggression as being acceptable behaviours, however, a key finding was that co-morbidly aggressive children were the most accepting of relational aggression out of the four subgroups of children. Furthermore, they were much less accepting of physical aggression compared to relational aggression. This is inconsistent with the original hypothesis of this study whereby it was expected that co-morbid children would approve the use of both physical and relational aggression. Interestingly, co-morbidly aggressive children identified physical aggression as more serious. Physical aggression is generally more visible and direct (Crick et al., 1997), thus, the negative impact of physical aggression may increase children's

perceptions of the seriousness of the behaviour. Further, parents and teachers are more likely to intervene in physical aggression immediately, indicating to children that these behaviours are unacceptable (Swit et al., 2018). For example, Swit and colleagues (2018) explored parent and teacher perceptions of physical aggression and relational aggression in young children. They found that parents and teachers believed relational aggression to be a more normative behaviour compared to physical aggression and were less likely to intervene or be empathetic of relationally aggressive acts (Swit et al., 2018). The differential use of intervention strategies used by teachers and parents may communicate to young children that some behaviours are more acceptable, and are less likely to lead to serious consequences, compared to other behaviours.

The typically developing children's overall scores indicated that they did not perceive either physical or relational aggression to be acceptable behaviours. This finding was consistent with the original hypothesis which predicted that typically developing children would hold low normative beliefs for both relational aggression and physical aggression. This finding is also consistent with previous research that found non-aggressive children held low normative beliefs about aggression (Swit et al., 2016). However, when examining the difference in beliefs between physical and relational aggression, the typically developing children perceived physical aggression as more acceptable compared to relational aggression. More specifically, the typically developing children were the least accepting of relational aggression compared to all four subgroups, however, they were more accepting of physical aggression than the relationally and co-morbidly aggressive children. This finding is inconsistent with previous literature which suggested that children with normative levels of aggression are more likely to consider physical aggression as a more serious offence and therefore have more disapproving beliefs of the use of physically aggressive behaviours compared to relational aggression (Goldstein et al., 2002). However, only one child from this

subgroup identified a physically aggressive behaviour as being okay and this would have brought down the total mean normative belief score for physical aggression. The child who reported that physical aggression was okay was the youngest in the group at 45 months. This is consistent with what we know about younger children having higher normative beliefs about aggression than older children (Swit et al., 2016). It is expected that as children get older, they develop an awareness of appropriate social behaviours and social norms and therefore it is expected that their normative beliefs will reflect this. Because this child is younger, she may not have yet developed stable beliefs about appropriate versus inappropriate behaviours (Huesmann & Guerra, 1997) which are reflected in her beliefs about physical aggression. However, it is interesting that she only identified one of the physical aggression scenarios as being okay, while the other as not okay. According to the General Aggression Model (Anderson & Bushman, 2002) and the Social Information Processing Model (Crick & Dodge, 1994), children's knowledge structures including beliefs about aggression are heavily influenced by contextual factors and previous experiences. Therefore, the child may recognise some situations as being aggressive while others not. This may explain why this child identified one physical aggression scenario as being wrong but the other as being okay. This provides further evidence that normative beliefs about aggression and the interpretation of social cues are contextual (Bandura, 2001; Guerra & Huesmann, 2004), and can change based on the type of situation the child is exposed to even if the behaviour has the same underlying intention.

A key finding when exploring the rationale behind why children reported behaviours as being wrong showed that two children, one from the relational group and one from the co-morbid group, seemed to understand the impact that relational aggression can have on other children's thoughts and feelings. For example, when asked why they thought the behaviour in a relationally aggressive scenario was wrong they responded, *"Because it hurts their*

feelings" and *"Because otherwise it might hurt her feelings".* These responses were rare amongst the children interviewed as other children did not provide responses that indicated that they were cognisant of how relational aggression would affect the victims' feelings. Children from the relationally aggressive subgroup and the co-morbidly aggressive subgroup both have relatively high levels of relational aggression and their answers may be reflective of higher-order theory of mind and cognitive skills. Advanced theory of mind skills are necessary for children to understand that they can manipulate their relationships with their peers (Shahaeian, Razmjoee, Wang, Elliott, & Hughes, 2017). Therefore, complex consideration of others emotions, thoughts and desires also enable children to understand behaviours like persuasion and deceit (Shahaeian et al., 2017). These behaviours are necessary for successfully influencing social situations to one's advantage. Therefore, it is not unreasonable to assume that having a well-developed theory of mind is needed for children to express relationally aggressive behaviours (Gomez-Garibello & Talwar, 2015). Shahaeian and colleagues examined relational aggression in the early years and its association with language and other social and cognitive skills. They found that the group of children who had rather high levels of relational aggression and typical to above-average language abilities had more developed cognitive skills, such as theory of mind and executive functioning, compared to a group of children with low relational aggression and language skills (Shahaeian et al., 2017). These findings that associate higher levels of theory of mind with higher levels of relational aggression are consistent with this study.

The findings from this study provide additional evidence that physically aggressive children, relationally aggressive, co-morbidly aggressive and typically developing children may process and understand social information differently.

5.2 Children's Behavioural Responses to Hypothetical Scenarios

The second goal of this study was to explore physically aggressive, relationally aggressive, co-morbidly aggressive, and typically developing children's behavioural responses to hypothetical physical and relational aggression-provoking scenarios. Overall, the majority of behavioural responses recommended across the whole sample of children were physically aggressive responses and prosocial problem-solving responses equally. However, none of the children recommended relationally aggressive behavioural responses. Furthermore, when examining the behavioural responses suggested by each subgroup it was found that the typically developing children recommended mostly physically aggressive behaviour responses, however, this subgroup also recommended a wide variety of behavioural responses that were not identified in the other subgroup of children. Furthermore, physically aggressive children were more likely to recommend acts of physical aggression to resolve social conflict. On the other hand, the relationally aggressive children were more likely to recommend prosocial problem-solving behavioural responses. Furthermore, the co-morbid children suggested an equal amount of physically aggressive and prosocial problem-solving behavioural responses to the hypothetical scenarios.

The majority of behavioural responses recommended by the typically developing children involved the use of physical aggression. This finding is consistent with Swit and colleagues (2016) suggestion that children who use average levels of relational and physical aggression (i.e. at the mean for the population group), may still use physical aggression to respond to aggressive social situations. This finding also triangulates with the normative beliefs of typically developing children in this study who indicated a higher level of acceptability of the hypothetical physical aggression scenarios. Interestingly, these findings are not consistent with theories of aggression such as the General Aggression Model (Anderson & Bushman, 2002), whereby it would be expected that typically developing

children would not engage in aggressive behaviours because they perceive these behaviours as unacceptable. However, as the typically developing children were identified by the researcher as having average levels of parent-rated physical and relational aggression, their use of physically aggressive behaviours may not be unexpected given that some aggression towards peers is typical in young children (Côté, Vaillancourt, Barker, Nagin, & Tremblay, 2007; Reebye, 2005; Tremblay et al., 2004). For example, young children engaged in rough and tumble play and tend to employ instrumental and physical expression of aggression such as snatching toys (Reebye, 2005). However, one child from the typically developing group recommended a wide variety of behavioural responses that were not identified in the other subgroup of children. Examples include the child showing an emotional reaction to the provocation (e.g. crying when confronted with conflict), an inquiry or inquisitive response (e.g. questioning why the perpetrator acted aggressively towards the victim), and removing access of toys from the other children. This child was the oldest out of all nine children at 58 months and her range if behavioural responses could be indicative of increased social-cognitive development due to her age.

Physically aggressive children were more likely to recommend acts of physical aggression to resolve social conflict. This finding was expected, as they were rated as showing high levels of physical aggression at home, and therefore we would assume that they would automatically use similar behaviours to resolve future conflicts. Furthermore, physically aggressive children were the youngest in this sample of children. This is consistent with developmental literature that demonstrates that physical aggression peaks around the age of four and tends to decrease due to a growth in cognitive, social and verbal skills (Eisner & Malti, 2015). Moreover, it appeared that the physically aggressive children's responses indicated that they could easily describe why physical aggression was used but their responses for relational aggression were much more abstract. For example, in response to the

hypothetical relational aggression scenarios, when asked why the child acted aggressively Child 1 responded, *"Because someone should do it"* and then changed his answer to, *"They're both standing up in the sandpit and he (the perpetrator) says yes now"*. Child 2 also gave an abstract answer of *"Because he's his best friend (the other boy in the sandpit) but he's not his best friend (the boy wanting to play)"*. These responses were vastly more abstract than their responses to the physically aggressive scenarios which mostly consisted of *"Because he's mean"* and *"Because it's not fair"*. These more complex responses to the relational aggression scenarios could indicate a lack of understanding about these behaviours. The physically aggressive children were 41 and 42 months old at the time of the interview. At this young age, physically aggressive behaviours are more common due to less developed social cognitions and language skills (Tremblay, 2000).

The relationally aggressive children suggested all prosocial problem-solving behavioural responses with physical and relational provocations. This finding is consistent with the findings presented in Swit and colleague's (2016) study and suggests that children who engage in relationally aggressive behaviours do not always have hostile attribution biases in their social information processing or less sophisticated social skills. As suggested by previous research, children who engage in relatively high levels of relational aggression have above average language skills and higher levels of cognitive abilities, such as theory of mind, executive functioning, and cooperation (Shahaeian et al., 2017). Therefore, these children may be more skilled at processing social cues to build successful relationships and achieve specific social goals (Shahaeian et al., 2017). Furthermore, relationally aggressive children may also use prosocial behaviours as a way of asserting dominance which is rewarded and reinforced as it may lead to a greater social status which can be attributed to advanced social skills (Helibron & Prinstein, 2008). This would suggest that relationally

aggressive children may know how to use aggression more effectively to harm their peers while maintaining positive interactions concurrently.

An original contribution of this study was the exploration of co-morbidly aggressive children's behavioural responses to hypothetical aggression scenarios. This subgroup of children described an equal amount of physically aggressive and prosocial problem-solving behavioural responses to hypothetical scenarios. The age and gender of each co-morbid child varied with one child being a boy while the other was a girl and they were 10 months apart at the time of the interview. The boy (55 months old) described only physically aggressive behavioural responses, while the girl (45 months old) described all prosocial problem-solving behavioural responses. This is the first known study to explore co-morbid children's behavioural response choices to hypothetical relationally and physically aggressive scenarios. Based on what we know about children's use of aggression during the early years, it appears that co-morbid children's behavioural responses are consistent with typical gender differences in preschoolers' aggressive behaviour. More specifically, boys engage in higher levels of physical aggression compared to girls, and girls engage in high levels of prosocial behaviour compared to boys (Lansford et al., 2012). It is recommended that future research continues to examine the behavioural response choices of a much larger sample of co-morbid children to determine the social-cognitive trajectories that may be influencing these children's preparedness to aggress using relational and physical forms of aggression.

5.3 The Influence of Normative Beliefs on Behavioural Responses

The third goal of this study was to examine whether children's behavioural responses used to respond to hypothetical scenarios of relational and physical aggression related to their normative beliefs. The results of the children's normative beliefs indicated that across all four subgroups, children identified nearly all of the behaviours in the hypothetical scenarios as either being a little bit wrong or really wrong. However, these beliefs seemed to contradict some of the behavioural responses recommended. Majority of the children in this sample went on to recommend aggressive responses to hypothetical perpetrators in the scenarios despite identifying relational and physical aggression as being wrong. During this time, young children are still learning what behaviours are acceptable and unacceptable and their cognitive and social skills are influenced by their environmental context (Huesmann & Guerra, 1997). As such, these children may have been taught about the acceptability of behaviours by others, however, are unable to make the connection between what they know is socially appropriate and their own behaviour (Hymel & Perren, 2015). Research shows that young children can morally disengage from what they know is right or wrong when they are heavily focused on achieving personal goals (Hymel & Perren, 2015). Moral disengagement can be used to explain the way an individual can enact behaviours that do not align with their internal moral standards, while at the same time convincing themselves that they are adhering to those morals and avoiding any feelings of guilt (Hymel & Perren, 2015). This concept may be used in the context of this study to explain why when children are asked about whether they think an aggressive behaviour is acceptable or not, they may be able to recognise a behaviour as being right or wrong, but when faced with conflict in a social situation, the child may morally disengage as their automatic social scripts take over.

Moreover, the findings also showed that relationally aggressive children held normative beliefs disapproving of relational and physical aggression, and they recommended only prosocial problem-solving behavioural responses to the hypothetical scenarios. Research has shown that a child's internal cognitive processes when choosing whether to aggress or respond with prosocial behaviour is significantly influenced by their normative beliefs (Werner & Nixon, 2005). Therefore, if the child perceives physical aggression or relational aggression to be unacceptable behaviour it could then be expected that those behaviours are less likely to be reflected in their responses to aggressive provocations. It has been found that relationally aggressive children may be more skilled in processing social information to achieve goals and may use relational aggression to obtain social hierarchy (Nelson et al., 2010). The findings of Swit and colleagues (2016) also support the notion that relationally aggressive children not only used prosocial behaviours but also enjoyed prosocial interactions with their teachers and peers. Therefore, their indication of aggressive behaviours as being wrong followed by the use of prosocial problem-solving behaviours could be indicative of these children processing social information in ways that promote their social acceptance and standing.

5.4 Gender and Age Differences

The fourth and final goal of the study was to explore gender and age differences between and/or within aggression categories. Based on parent reports, only boys belonged to the physically aggressive subgroup while only girls belonged to the relationally aggressive subgroup. Gender differences in aggression may be explained by early gender socialisation. Gender stereotypes of aggression usually consider boys to be more physically aggressive than girls due to the male gender role being typically associated with aggressiveness and dominance (Coyne et al., 2011) while the female gender role is typically linked to a caring, sensitive nature with expectations of helping and nurturance (Eisenberg, Eggum-Wilkens, &

Spinrad, 2015). Relational aspects of friendships are also given more importance amongst girls (Crick & Grotpeter, 1995) which may also explain why parents perceive girls to be more relationally aggressive. Furthermore, in this sample, the physically aggressive children were the youngest group with an average of 41.5 months old. The relationally aggressive children had a mean age 49.5 months, which was similar to the co-morbid subgroup with a mean age of 50 months. Lastly, the typically developing children had a mean age of 50.6 months making them the oldest subgroup of children. These findings align with what we would expect of developmental expectations during the early years. For example, physical aggression is most common in younger children which moves into relational aggression as children develop language and cognitive skills and eventually, aggressive behaviours decrease as children get older (Tremblay, 2000). Therefore, we can be confident that the normative beliefs and behavioural responses described by the children in this study are representative of children of these ages with these behavioural concerns.

No gender differences in children's normative beliefs were found when looking at all subgroups of children combined. That is, in this sample of preschool-aged children, both boys and girls identified physical and relational aggression to be unacceptable. Similarly, no gender differences were found in those children who identified hypothetical relational and physical aggression to be acceptable. This finding differs to some previous research that has identified gender differences in the normative beliefs about physical and relational aggression in young children (Goldstein et al., 2002) whereby boys approved the use of physical aggression more than girls, and girls approved the use of relational aggression more than boys (Goldstein et al., 2002). A larger sample of preschoolers may have shown significant gender differences. Studies continue to demonstrate robust and consistent gender differences for children's use of physical aggression with boys more likely to use this form of aggression across all developmental periods (Coyne, Nelson, & Underwood, 2011; Loeber et al., 2013).

However, research has challenged the perceptions of boys' and girls' differential use of relational aggression (Card et al., 2008; Lansford et al., 2012), with gender differences in children's use of relational aggression being very small. For example, in Lansford and colleague's (2012) meta-analysis of boys' and girls' relational and physical aggression in nine countries, they found no differences in relational aggression between boys and girls. Furthermore, Swit and McMaugh (2012) found no gender differences in children's use of relational aggression in early childhood. These empirical studies, as well as large meta-analyses (Archer, 2004; Card et al., 2008), provide evidence that gender differences in children's use of relational aggression across young and older children are non-existent or equivocal (Archer, 2004; Card et al., 2008; Lansford et al., 2012; Swit & McMaugh, 2012).

When analysing gender differences and behavioural responses, it was found that girls used response behaviours that were mostly prosocial problem-solving with a minor frequency of physical aggression or emotional responses and inquisitive responses. In comparison, boys mainly used physical aggression and a smaller number of prosocial problem-solving behavioural responses. These gender differences could be due to stereotypical gender biases where physical aggression among boys is more acceptable and expected among adult figures who also model these behaviours to young children. According to role theory and social role theory from a parenting and child aggression perspective, parents are expected to use different parenting strategies with boys and girls according to stereotypical gender roles (Archer, 2004). For example, parents are more likely to focus on interpersonal closeness and affiliation when parenting girls, whereas parenting strategies with boys will be more likely to focus on dominance and assertiveness (Archer, 2004). Furthermore, it is expected parents will teach their sons but not their daughters that aggressive behaviours are appropriate to use as part of a set of behaviours that are associated with masculinity (Archer, 2004).

Age seemed to not affect the children's normative beliefs about physical and relational aggression. That is, both younger and older children in this sample identified all physical and relational aggression hypothetical scenarios as being serious, and the three children who identified aggressive behaviour as being okay varied in age. Furthermore, it appeared that age did not have much of an effect on children's behavioural responses to hypothetical scenarios of physical and relational aggression. While the number of children in this study and the aggression subgroups was too small to examine between-group effects, the descriptive trends were inconsistent with previous research that has shown that as children get older their beliefs approving of aggression decrease as well as their use of actual aggressive behaviour (Côté et al., 2006; Swit et al., 2016). A possible explanation for this finding is that in early childhood, children are going through a rapid rate of cognitive and social development where their understanding of acceptable and unacceptable social behaviours may be changing (Tremblay, 2000; Tremblay et al., 2004). Their social scripts and perceptions are influenced by the environment around them and in the early childhood stage, children's beliefs may be unstable (Huesmann & Guerra, 1997). Perhaps an investigation of age differences in children's normative beliefs about aggression using a cross-sectional design comparing preschool-aged children to primary school-aged children may present children's age as a more robust factor in determining children's normative beliefs.

5.5 Strengths and Limitations

This study provides a strong basis for addressing aggressive behaviours in children and expands our understanding of the cognitive mechanisms underlying aggressive behaviours and how they differ between children who use different forms of aggression. More specifically, it is the first known study that has examined the normative beliefs and behavioural responses of co-morbidly aggressive children and compared these children who use physical aggression only, relational aggression only and typically developing children. However, the results must be considered in light of some limitations. First, the PSBS-TF measure used to identify the four aggression subgroups of children was originally developed as a teacher report measure for use in an early childhood education setting. The current study used the PSBS-TF as a parent rating measure of children's aggressive and prosocial behaviour in the home. While parents are considered reasonably good informants of their child's observable behaviour problems, including aggression (Caplan, 2015; Loeber, Green, Lahey, 1990), there may be some factors that bias their perceptions of their child's social behaviours and aggression. For instance, observing a child in the home context only may provide fewer opportunities for the child to engage in social and non-social behaviours, especially if the child has no siblings or does not engage in peer interactions at home. In contrast, the early childhood educational setting is likely to provide more opportunities for teachers to observe the social interactions of the children. Furthermore, parents often view their children favourably which could lead to biased answers and may be reflected in the parents reporting of higher levels of prosocial behaviours compared to aggressive behaviours. This may affect the reliability of the data collected. It is suggested that future research uses a range of measures and informants such as a parent report, teacher report, and observations made by the researcher to get a more holistic overview of the prevalence of prosocial and aggressive behaviours used by the child.

Second, given the time constraints of a Master's thesis, there was not much time to recruit participants. Out of the 97 children whose parents participated in phase one of the study, only 35 children fit the criteria and were identified as one of the four aggression subgroups (9 physically aggressive, 7 relationally aggressive, 6 co-morbidly aggressive, 13 typically developing children). Furthermore, out of those identified, only nine caregivers agreed for their child to participate in phase two of the study. The limited number of participants who fit into one of the four categories presented as a limitation as it meant a smaller population of people were being relied on for participation. Having a small sample meant that the number of participants was not sufficient enough to be able to calculate statistical analyses, and this may have reduced our ability and power to find significant gender and age differences. With a larger sample, it may have been easier to see trends in the data that could not be seen in this particular study, so it is recommended that this study be replicated with a larger number of participants in the second phase.

Furthermore, accessibility presented as a limitation since caregivers needed to bring their children into the University in their own time and be responsible for creating time in their day to do so. It also meant that caregivers would need their own mode of transport to get to the University. These factors make the process of participating seem more effortful and therefore, may have affected the number of people willing to participate. Despite these limitations, the small sample size allowed for rich qualitative data to be collected on each of the children's normative beliefs and behavioural response choices to a range of hypothetical aggressive scenarios. This would have been challenging with a much larger sample, and the sample of children in this study was sufficient for a Master's thesis and to identify differences in the social-cognitive processes of children who engage in different types of aggression. Overall, this sample of children had fairly low levels of aggression and high levels of prosocial behaviour. This is a strength in that we have been able to examine the social-

cognitive processes in the extreme groups, but it also means that it is much more difficult to obtain larger subsamples.

5.6 Implications and Future Research

The children's responses to the social-cognitive interview further emphasise how complex and sophisticated preschool-aged children's social-cognitive processes are for them to engage in aggressive behaviours, especially the manipulation of social interactions. The findings of the study support the notion that children who engage in different forms of aggression, including children who use both physical and relational aggression, process social information differently. More specifically, relationally aggressive children may not only be using social processing to resolve conflict among peers but may also be using social aggression to their advantage to achieve social goals including popularity amongst peers. Furthermore, co-morbidly aggressive children's social information processing indicates that they may be more strategic in the type of aggression they use depending on the social situation and the goals they want to achieve, or may change their behaviour to suit what is acceptable in the presence of adults. These findings have important implications for both practitioners and teachers and parents. Practitioners in the field of child behaviour and development will be able to apply this knowledge to the numerous intervention programmes that are designed specifically to target child aggression and promote the development of prosocial skills in peer interactions. In children who already have sophisticated social skills, it may be more useful to focus on training which helps to regulate the use of these skills appropriately rather than using social manipulation to advantage themselves. Furthermore, the findings are useful for the development of new effective intervention strategies as well as being able to tailor the intervention differently for each specific child based on the form of aggressive behaviour they predominantly use. Moreover, the findings of the study provide a

framework for teachers and parents to be able to understand aggressive behaviours in the classroom and home environment. The findings highlight how children may be using different forms of aggression while interacting with peers, not just physical aggression. Teachers and parents should address the use of relational aggression with preschool-aged children. It is important to teach children that while physical acts of kicking and punching are hurtful, relationally aggressive acts also cause harm and are not acceptable.

Furthermore, this study successfully replicated the use of a developmentally appropriate methodological approach where young children between the ages of 3 and 5 engaged in a social-cognitive interview. The success of this measure further highlights that researchers can engage children as young as 3-years-old in research and examine complex processes such as their normative beliefs about aggression and social-cognitive processes around why they chose a particular behavioural response and why they thought the perpetrator in the scenario acted aggressively. This has important implications for researchers as it provides further evidence that this new interactive interviewing technique is a robust and reliable measure for identifying differences in the normative beliefs and behavioural responses of children who display physical aggression, relational and co-morbid aggression, as well as typically developing children.

It is recommended that further research on the social-cognitive processes, including normative beliefs and behaviour selection, of co-morbidly aggressive children occurs with a larger sample population. This study's findings showed clear differences in normative beliefs and behavioural responses between the co-morbid children and the other aggression subgroups, however, the current sample only contained two children that were identified as being co-morbidly aggressive. Therefore, the data collected on this subgroup was limited and may not be able to be generalised to a wider population. Examining the social-cognitive processes of co-morbidly aggressive children using a larger sample would allow for more

rigorous data collection and analysis and therefore providing stronger evidence that co-morbidly aggressive children process social information differently to other aggressive and typically developing children. However, the inclusion of co-morbidly aggressive children in this study was the first of its kind and provides a good base to strengthen the findings as well as expand on them.

Furthermore, it may be interesting to expand the current study by investigating whether environmental factors such as socioeconomic status (SES) have an impact on children's normative beliefs about aggression and whether they engage in aggressive behaviours. For example, there is a body of literature that shows that coming from a low-socioeconomic background is correlated to behavioural problems in children compared to children from high socioeconomic families (Piotrowska, Stride, Croft, & Rowe, 2019) and that more specifically, low SES has a direct association to aggressive problem behaviours in children (Greitemeyer & Sagioglou, 2018). The inclusion of environmental influences is important as it recognises that behaviour and cognitions are shaped by our environment as well as innate biological factors including the development of aggression in young children (Anderson & Bushmann, 2002). To extend the current developments made in the research of aggression in young children, it is crucial to continue to explore our understanding of the development of aggressive behaviours across several different contexts and social situations.

5.7 Concluding Remarks

This thesis contributes to empirical data about co-morbidly aggressive preschool-aged children's normative beliefs about hypothetical relationally and physically aggressive behaviours and their behavioural responses to hypothetical aggressive scenarios. This is also the first known study to compare the normative beliefs and social-cognitive processes of relationally aggressive, physically aggressive, co-morbidly aggressive and typically

developing preschool-aged children. This is considered an important contribution to the field as this study has provided an understanding of the beliefs and attitudes of young children who engage in different forms of aggression to determine whether there are differences here that we may be able to apply to interventions. Furthermore, previous research has demonstrated that physically aggressive, relationally aggressive and typically developing preschool-aged children process social information differently (Crick et al., 2002; Nelson et al., 2010; Swit et al., 2016;). Thus, it is important to include all forms of aggression in the examination of social-cognitive processes that may be influencing young children's preparedness to aggress to inform effective intervention strategies to mitigate negative social behaviours in the early years. Moreover, this study provides a valuable contribution to current literature on early childhood aggression by drawing attention to the differences in co-morbidly aggressive, physically aggressive, relationally aggressive and typically developing children's cognitive understanding of their social behaviours and responses to hypothetical physical and relational aggression provocations.

Furthermore, the current study provides further validation of the effectiveness of the social-cognitive interview developed by Swit and colleagues (2016). The children in this study were able to understand the hypothetical scenarios, effectively communicate their own perspectives about the acceptability of relational and physical aggression and articulate how they thought the victim in the hypothetical scenario should respond. This method was perceived as extremely effective in supporting our understanding of why young children aggress or choose to use more prosocial behaviours to resolve conflict. Finally, this study highlights that young children can verbalise and describe their thought processes and perceptions about different hypothetical aggressive behaviours. Researchers and practitioners should not underestimate the power in engaging young children as active participants in research.

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Appendix A.
Online Questionnaire (PSBS-TF)

Parent completing form (please circle):

Mother / Other Father / Other

Gender of child (please circle):

Male Female Other

On a scale of 1 (never true) to 5 (almost always true) please respond by ticking the box that corresponds to the correct response based on observations of your child in social settings.

	(1) Never True	**(2) Almost never True**	**(3) Sometimes True**	**(4) Mostly always true**	**(5) Always true**
My child kicks and hits others.					
My child is helpful to peers.					
My child tells other peers that he/she won't play with that peer or be that peer's friend unless he/she does what your child asks.					
My child verbally threatens to hit or beat up another child.					
My child pushes and shoves others.					
My child tells others not to play with or be a peer's friend.					
My child stops peers from being in the play group.					
My child verbally threatens to physically harm another peer in order to get what they want.					

My child ruins other peer's things (e.g. art work, toys) when he/she is upset.					
My child tells peers they won't be invited to their birthday party unless he/she does what they want.					
My child tries to get others to dislike a peer (e.g. by whispering mean things about the peer behind the peer's back).					
My child verbally threatens to keep a peer out of the play group if the peer doesn't do what they say.					
My child hurts other children by pinching them.					
My child shares and takes turns.					
My child is kind to peers.					
My child says or does nice things for other peers.					

Appendix B.
Interview Measure for Children

Table 1. *Relational and physical aggression provocation scenarios used in the social-cognitive interview*

Scenario 1: Physical Aggression
A child is playing with some toys. Another child throws a toy at the child

Scenario 2: Relational Aggression
Two children are playing with the train set on the floor. Another child comes over and starts playing with the trains too. The children playing say to the other child, ‘‘You can’t play with us. GO AWAY!’’

Scenario 3: Physical Aggression
This child is building a block tower. Another child comes over and knocks over the block tower.

Scenario 4: Relational Aggression
A child is building a sandcastle. Another child comes over and asks to play. The child in the sandpit says ‘‘NO! You’re not my friend!’’

Table 2. *Examples of qualitative prosocial problem-solving and aggressive solution responses to relational and physical aggression scenarios*

Relational and physical aggression scenarios	Problem-solving responses	Aggressive solution responses
What would the child (victim) do after the other child said "You can't play with us. Go away!"	"Tell a grown up" "Go play with someone else"	"Say I'm not your friend" "Throw a toy at her and smack her"
What would the child (victim) do after the other child said "No you can't play with me! You are not my friend!"?	"Go do a painting" "He's going to find other friends to play with"	"Throw sand in his eyes" "Throw the bucket and shovel"
What would the child (victim) do after the block tower had been knocked over?	"Walk away" "Put the blocks away" "Build the tower back up"	"Knock her block tower over" "Punch him in the belly" "Throw the blocks at her"
What would the child (victim) do after the other child threw a toy at them?	"Go play with some different toys" "She's going to go away from her (perpetrator) and do a drawing"	"Throw the toy back at her" "Throw another toy back at him and step on him"

Appendix C.
Ethics Approval Letter

HUMAN ETHICS COMMITTEE

Secretary, Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

Ref: HEC 2018/58

6 August 2018

Hannah Sansom
College of Arts
UNIVERSITY OF CANTERBURY

Dear Hannah

The Human Ethics Committee advises that your research proposal "Examining Parenting Practices and Social and Non-Social Behaviours in Pre-School Aged Children" has been considered and approved.

Please note that this approval is subject to the incorporation of the amendments you have provided in your emails of 25th July and 1st August 2018.

Best wishes for your project.

Yours sincerely

pp. R. Robinson

Professor Jane Maidment
Chair
University of Canterbury Human Ethics Committee

Appendix D.
List of Facebook Groups Contacted

Name of Organisation
Lyttleton Mother4Mother Breastfeeding Support
Rangiora Mother4Mother Breastfeeding Support
Mums & Bubs Boot Camp
Christchurch Parents Centre
Parents of Christchurch
It Takes a Village Canterbury
Peoples Independent Republic of New Brighton
Templeton Primary School Parents
Christchurch Parents 35yrs plus
Beckenham Neighbourhood
Thorrington School
Linwood Playcentre
Linwood North School
Linwood Neighbourhood Association
Sumner Playgroup
Christchurch Mums
Christchurch Mums, New Zealand
CHCH Buy/Sell Baby/Kids gear
Mums and Bubs Rolleston Walking Group
Rolleston Mummies Support Group
Time4Mums Rolleston
Canterbury Plunket
Babies Can Play Canterbury
The Chch Under 5s Collective
Opawa St Martins Plunket Toy Library
Christchurch Mothers Group
CanPlay@Playcentre
Little Kiwis Nature Play
The Enchanted Garden Early Childhood Centre
Beckenham Te Kura o Pūroto
Hornby Under 5s Playgroup
The Nanny Company
Sparkling Crystals Playgroup
Burwood Playgroup
Home Grown Kids Christchurch/Canterbury – Home Based Childcare & Nannies
Bumble Bees Swim School
Moa Kids
Montessori Home Based Care Christchurch
Just Kids Preschools
Cotswold Preschool and Nursery
Ready Steady Play Preschool
The Villa Montessori Preschool

Globallkids Early Learning Centre
Ferrymead Preschool and Nursery
Prebbleton kindergarten
Seedlings ELC Longhurst
Casa dei Bambini Foundation School
Fundamentals Preschool and Nursery Merivale
Fundamentals Preschool and Nursery Marshland
Christchurch Mums/Dads
Christchurch Mums and Dads
Christchurch Parents as Friends
Single Parents in Christchurch

Appendix E.
Research Study Advertising
Research Poster

UC UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Go in the draw to win 1 of 5 $50 Westfield vouchers!

Are you a parent or caregiver with a

CHILD BETWEEN 3-5yrs?

We would love your help with our study!

Goals of the study:

To examine ways in which parenting practices influence young children's social behaviours.

To investigate young children's understanding of and responses to common social behaviours.

The information collected from these studies will aid in informing healthy social development in young children.

If you wish to participate, please follow the link below to the online questionnaire.

http://canterbury.qualtrics.com/jfe/form/SV_9nkNj7btHMY7pLD

The research is being carried out by **Hannah Sansom** and **Saradia Hehn-McCahon** for their Masters of Child and Family Psychology and Honours Psychology theses respectively. All research is undertaken with the supervision of Dr. Cara Swit and Dr. Seth Harty.

If you have any questions or would like to know more information please contact the research team at hms80@uclive.ac.nz or she90@uclive.ac.nz

Who can participate:

- Any parent/caregiver with a child between the ages of three and five
- You must be living in the Christchurch area

What participation entails:

- Complete an online questionnaire taking approximately 15 minutes in your own home.
- Following the questionnaire you may be invited to bring your child in for a 20 minute interactive interview at the University of Canterbury
- The online questionnaire is a secure website link, and all data collected will remain confidential and be securely stored.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee

Appendix F.
Information Sheet and Consent Form for Main caregivers
(Phase one/Online Survey)

Researcher: Hannah Sansom and Saradia Hehn-McCahon
Department: College of Arts and Psychology Department
Email: hms80@uclive.ac.nz, she90@uclive.ac.nz
[Date]

Examining parenting practices and social and non-social behaviours in preschool-aged children
Information Sheet for Parents/Caregivers

You are invited to participate in a study examining preschool-aged children's use of social and non-social behaviours, and the relationship between these behaviours and parenting responses. This study will involve your participation in an online questionnaire with a possible follow-up interview with your child.

The study will investigate your child's use of social and non-social behaviours. Social behaviours include acts such as sharing, and helping others, while non-social behaviours include behaviours such as hitting, and excluding peers from play groups. The study is also interested in identifying whether parental responses to child behaviour influence young children's social and non-social behaviours and whether this is different for boys and girls.

The study is being conducted by Hannah Sansom as a requirement for her Master's Thesis, and by Saradia Hehn-McCahon as a requirement for her Honours Dissertation. The study is being supervised by Dr. Cara Swit from the School of Health Sciences, and Dr. Seth Harty from the Department of Psychology at the University of Canterbury.

What does the study involve?

To participate in this study, we ask that you have at least one child aged between 3-5 years. If you choose to take part in this study, your involvement will include indicating your own gender and your child's gender, completing a short online questionnaire about your child's use of social and non-social behaviours, and parenting questions about how you respond to your child. In section one of the questionnaire you will be presented with scenarios describing social and non-social behaviours commonly used by young children and you will be asked to identify the degree to which your child displays the behaviour being described. Section two of the questionnaire will ask you to describe the way in which you respond to your child's behaviour. The online questionnaire will take approximately 15 minutes.

The research team intends on doing further research in the area and after the completion of this survey, and review of the data, you may receive an invitation for your child to participate in phase two of this study. Your child may be invited to participate in phase two if they are identified as being non-aggressive or belonging to either relational, physical, or co-morbid aggressive groups using information collected from the child behaviour data on the online

survey. A separate information and consent form describing phase two will be emailed to you. Participation in phase two of this study is completely separate from your consent to participate in this current online questionnaire, and therefore, even if you are contacted again, you may decline the invitation to participate in the child interview if you wish.

Once you have completed the online questionnaire, you will go in the draw to win one of five $50 Westfield Mall vouchers which will be drawn once the questionnaire phase of the study is complete in October. If you are drawn you will be contacted via the email provided and the voucher may be collected from the University of Canterbury.

Participation is voluntary and you have the right to withdraw at any stage without penalty. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, any information relating to you or your child will be removed. However, once analysis of raw data starts in September 2018, it will become increasingly difficult to remove the influence of your data on the results.

Who will have access to the information that is collected and what will happen with the information?

All information collected in this study will remain strictly confidential at all time. Data will be securely stored in locked facilities at the University of Canterbury or on secure computer files/documents, and will not be accessed by anyone outside of the research team. The results from this study are intended to be used towards an Honour's dissertation, and published as a Master's thesis. A thesis is a public document and will be made available through the University of Canterbury Library, and there is also a possibility for results to be further published in an academic journal. However, you may be assured that no identifiable information will be published. Following publication of the study, data will be kept for a minimum period of five years, and then destroyed. A summary of the overall findings will be sent to participants if requested (by contacting the research team), at the completion of the study.

Are there any risks involved?

There are no physical risks posed to you or your child by participating in this study. As the questionnaire asks of you to identify social and non-social behaviours of your child, as well as your own parenting practices, we understand these questions may be a sensitive topic to some. However, you do not need to respond to questions or items if you choose not to, and you can choose to withdraw from the study at any time.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you have any additional questions or concerns you would like to discuss, please do not hesitate to contact us via the contact details below, and we will be happy to help.

If you agree to participate in the study, please complete the consent form below. If you wish

to receive a summary of the results, please tick the box that applies in the consent form.

Thank you for your time and consideration.

Hannah Sansom (Researcher)
Master's Student, University of Canterbury
Email: hms80@uclive.ac.nz

Dr. Cara Swit (Primary Supervisor)
School of Health Sciences, University of Canterbury
Email: cara.Swit@canterbury.ac.nz

Department: Psychology and College of Arts
Email: hms80@uclive.ac.nz, she90@uclive.ac.nz
Date: [ ]

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Examining parental attitudes and social and non-social behaviours in preschool-aged children.

Consent Form for parents and caregivers

☐ I have read and understood the participant information sheet.

☐ I understand that to participate in this study I am asked to complete an online questionnaire including demographic information questions. I also understand, that with my consent, I may be further contacted and invited to bring in my child for an interview at the University of Canterbury.

☐ I understand that participation is voluntary and I may withdraw from participating at any time without penalty. I understand that if I decide to withdraw my participation, any information I have provided so far will also be withdrawn so long as this is practically achievable.

☐ I understand that any information I provide in the questionnaire will remain confidential to the researchers and their supervisors and that any results reported or data published will not identify any participants.

☐ I understand that the data collected from this questionnaire will be used towards a Master's Thesis and an Honours Dissertation. I understand that a Master's thesis is a public document and will be available through the UC Library and may also be published in other academic publications (i.e. conference presentations, journal articles, seminar posters).

☐ I understand that all information collected in this study will be stored in secure, locked facilities at UC or on secure computer files/documents and will not be

accessed by anyone outside of the research team. This information will be destroyed 5 years after publication.

☐ I understand that I can contact the researchers Hannah Sansom (hms80@uclive.ac.nz) or Saradia Hehn-McCahon (she90@uclive.ac.nz) and their supervisors Dr. Cara Swit (cara.swit@canterbury.ac.nz) and Seth Harty (Seth.Harty@canterbury.ac.nz) for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)

☐ I would like to receive a summary of the results.

By entering your email address in the textbox below and completing the questionnaire it will be understood that you have consented to participate in this research project.

EMAIL ADDRESS:_____

Appendix G.
Information Sheet and Consent form for Caregivers
(Phase Two/Child Interview)

Researcher: Hannah Sansom
Department: College of Arts
Email: hms80@uclive.ac.nz
[Date]

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Examining social and non-social behaviours in preschool-aged children

Information Sheet for Parents and Caregivers

Thank you for recent participation in phase 1 of this study. Phase 2 of this study will explore preschool-aged children's use of social and non-social behaviours. This study is investigating your child's use of social (i.e. sharing and helping), and non-social behaviours (i.e. kicking and hitting), their beliefs about whether using non-social behaviours are acceptable or not, and whether this influences their behaviour when interacting with peers. Consent for phase 1 of this study does not automatically mean you have consented to participate in this phase of the study. In order to participate in this phase of the study, you need to consent to your child participating by filling out the consent form that has also been attached in this email.

This study is being conducted by Hannah Sansom as a requirement for her Master's thesis, and is being supervised by Dr. Cara Swit from the School of Health Sciences, and Dr. Seth Harty from the College of Science.

What does the study involve?

This study requires your child to participate in a playful, interactive interview with a trained member of the research team that will take approximately 20 minutes to complete. The interview will involve the researcher acting out hypothetical play situations using toy figurines. Your child will be asked whether they think the behaviour being enacted is acceptable or not, and how they think the child in the scenario should respond. The interview will be video recorded for data reliability purposes, however, the recordings will only be accessible to the research team on a password protected device and will be destroyed once research is complete. In the case where you choose not to have your child's interview video recorded, the researcher will take notes during the interview. You will be invited to wait outside of the room that the interview session is being held in so that your child's answers are not persuaded by your presence, however, an open door policy will be used so that you are able to watch the interview take place from afar.
Participation is voluntary and you, and your child, have the right to withdraw at any stage without penalty. Your child will also be asked whether they want to participate in the interview, and the interview will not go ahead if they verbally oppose. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, any information relating to you or your child will be removed. However, once analysis of raw

data starts in September 2018, it will become increasingly difficult to remove the influence of your data on the results.

Who will have access to the information that is collected and what will happen with the information?

All information collected in this study will remain strictly confidential at all times. Data will be securely stored in locked facilities at the University of Canterbury or on secure computer files/documents and will not be accessed by anyone outside of the research team. The results from this study are intended to be published as a Master's thesis. A thesis is a public document and will be made available through the University of Canterbury Library, and there is also a possibility for results to be further published in an academic journal. However, you may be assured that no identifiable information will be published. Following publication of the study, data will be kept for a minimum period of five years, and then destroyed. A summary of the overall findings will be sent to participants if requested (by contacting the research team), at the completion of the study.

Are there any risks involved?

There are no physical risks posed to you or your child by participating in this study. This interview has been set up as a playful activity for your child to interact with the researcher and will be guided by the child. Therefore, this interview has minimal risk of causing any emotional arousal or discomfort for your child and it is not expected that they will experience any distress. However, if for any reason your child expresses discomfort and does not want to continue with the interview, the interview/ play session will be stopped immediately and you will be asked to come in to console and provide comfort to your child.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you wish for your child to participate, please fill out the consent form attached in this email and return it to the researcher. If you wish to return the consent form via other means such as post or by hand, let us know so we can organise this. Arrangements will then be made for a time and date that is suitable for you and your child to come in for the interview. If you have any additional questions or concerns you would like to discuss, please do not hesitate to contact us via the contact details below, and we will be happy to help.

Thank you for your time and consideration.

Hannah Sansom (Researcher)
Master's Student, University of Canterbury
Email: hms80@uclive.ac.nz

Dr. Cara Swit (Primary Supervisor)
School of Health Sciences, University of Canterbury
Email: cara.Swit@canterbury.ac.nz

Researcher: Hannah Sansom
Department: College of Arts
Email: hms80@uclive.ac.nz
Date: [ ]

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Examining non-social behaviours in preschool-aged children

Consent Form for the Main Caregiver

☐ I have read and understood the participant information sheet.

☐ I understand that, with my consent, my child is to participate in a brief interview with a trained facilitator.

☐ I understand that my child will be given an age appropriate explanation of what they will be asked to do in the interview and they will be specifically asked whether they want to participate or not. I understand that if my child does not wish to participate in the interview they will not be made to do so.

☐ I understand that the interview is a playful interaction between the interviewer and my child and is not likely to pose any risk, however, if emotional arousal or discomfort occurs during the interview it will be stopped, and I may comfort my child.

☐ I understand that I will be invited to wait outside of the interview room while the interview is taking place as to not disrupt the interactive process. I understand that an open-door policy will be used so I am able to watch the interview from afar.

☐ I understand that participation is voluntary, and I may withdraw from participating, as well as withdraw my child from participating, at any time without penalty. I understand that if I decide to withdraw my participation, any information I or my child has provided so far will also be withdrawn so long as this is practically achievable.

☐ I understand that any information my child provides during the interview will remain confidential to the researchers and their supervisors and that any results reported or data published will not identify any participants.

☐ I understand that the data collected from this interview will be used towards a Master's Thesis. I understand that a Master's thesis is a public document and will be available

through the UC Library and may also be published in other academic publications (i.e. conference presentations, journal articles, seminar posters).

☐ I understand that all information collected in this study will be stored in secure, locked facilities at UC or on secure computer files/documents and will not be accessed by anyone outside of the research team. This information will be destroyed 5 years after publication.

☐ I understand that I can contact the researchers Hannah Sansom (hms80@uclive.ac.nz) and her supervisor Dr. Cara Swit (cara.swit@canterbury.ac.nz) for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)

☐ I give permission for the interview session with my child to be video-recorded on a recording device for reliability purposes of the study.

☐ I do not give permission for the interview session with my child to be video-recorded on a recording device for reliability purposes of the study.

☐ I would like to receive a summary of the results

☐ By signing below, I give consent for my child to participate in the research project.

Name:_____ Signed:_____ Date:_____

Once you have read through the consent form and provided a signature, please return this consent form to the research team via email, or if you wish to send it back via other means, such as post or by hand, please let us know so that this can be arranged.